AFCTN Report 94-108

AFCTB-ID 94-101

Technical IGES Transfer

Using:

NADEP Cherry Point's Data

Supporting:

H-46 CNCS Air Frame Change #443

MIL-D-28000A (IGES)

Quick Short Test Report

DISTRIBUTION STATEMENT A
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27 July 1994

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Prepared for
Electronic Systems Center
Air Force CALS Program Office
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Dayton OH 45431-1672

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Quick Short Test Report

27 July 1994

Prepared By
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Air Force CALS Test Bed

Notification of Test Results

27 July 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

NADEP Cherry Point

Identified as follows:

Title:	**Technical IGES Transfer**
Program:	**H-46 CNCS Air Frame Change #443**
Program Office:	**NADEP**
Contract No.:	**N/A**
QSTR No.:	**AFCTB-ID 94-101**

Received on the following media: **Electronic Transfer**

The results of the QSTR Report evaluation are as follows:

MIL-STD-1840A Standard	**N/A**
MIL-STD-1840A Media Format:	**N/A**
MIL-D-28000A IGES:	**FAIL**
MIL-M-28001B SGML:	**N/A**
MIL-R-28002A Raster:	**N/A**
MIL-D-28003 CGM:	**N/A**

Formal results with associated disclaimer are documented and available from the AFCTB.

Air Force CALS Test Bed
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Phone: 513-257-3085 FAX: 513-257-5881

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze NADEP Cherry Point's interpretation and use of the CALS standards in transferring technical IGES data. NADEP used its Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff using an electronic transfer. The data is a sample from the NADEP CAD systems to determine CALS conformance. No MIL-STD-1840A data was included.

2. Test Parameters

Test Plan: AFCTB 94-101

Date of Evaluation: 26 July 1994

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
Sue Webster 35400
NADEP
Bldg 163
PSC Box 8021
MCAS Cherry Point NC 28533-0021
DSN 582-7354

Data Description: Technical IGES Test
2 Initial Graphics Exchange Specification (IGES) files

Data Source System:

IGES

HARDWARE
Sun 3/60

SOFTWARE
Computervision CADDS4

Evaluation Tools Used:

MIL-D-28000 (IGES)
HP 735
InterCAP *X-Change v7.82*
Island Software *IslandDraw 3.0*
Carberry Cadleaf *3.1.2*
International TechneGroup Incorporated (ITI) *IGES/Works v2.0*

SGI Indigo2
- AUTODESK *AutoCAD R12*
- Cadkey *Cadkey v6.0*
- IGES Data Analysis (IDA) *CALSView*

Sun SparcStation 2
- Auto-trol *S5000 IGES Converter R7.0.1*
- IDA *Parser/Verifier v94*
- IDA *IGESView v3.05*
- Intergraph *I/EMS 02.00.01.11*
- Intergraph *I/CIGES 02.00.01.03*
- ITI *IGES/Works v1.3*
- Rosetta Technologies *Preview v3.2*

PC 486/50
- AUTODESK *AutoCAD 386 R12*
- IDA *IGES Parser/Verifier v93*
- IDA *IGESView Windows*

Standards Tested:

MIL-D-28000A

3. 1840A Analysis

3.1 External Packaging

The files arrived at the Air Force CALS Test Bed (AFCTB) via an electronic transfer to the Internet server. No physical media was exchanged or evaluated.

3.2 Transmission Envelope

The files received by the AFCTB were not MIL-STD-1840A files. The files were not named per the standard conventions, as the stated purpose of the evaluation was only for the basic data structure.

3.2.1 Tape Formats

No tape was submitted for evaluation.

3.2.2 Declaration and Header Fields

The files were submitted for evaluation without the CALS headers or a Document Declaration file. The purpose of the evaluation was only for the basic data files.

4. IGES Analysis

The transfer contained two IGES files. The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

These files were evaluated using IDA's *parser/verifier* set for basic IGES and CALS Class II. The CADDS4 does not have a CALS specific output so errors were expected. Both files reported the same type errors.

Entity 100 was reported in error for radii not being equal. The reported error while small, would be critical in a CNC application. An undefined font was also reported with this entity.

Entity 108 had a bounded plane error. The defined plane did not have a specified boundary.

A CALS specific error was reported for entity 212 where an illegal font was used. The fonts permitted in MIL-D-28000A are defined in Table II, Note 3. The permitted fonts are 1, 1001, 1002, and 1003.

File 2129-1i contained two drawings. It was noted throughout the evaluation by all software used, that the first drawing contained no information.

The text that appears to be upside down in the upper corner of file 399-2i was created that way.

Some lines in the models appeared to be missing. These entities were not found during an evaluation of the files. As an example, the thickening of the plate in model #399 was not inserted. Some of the right angle lines were present but the line defining the second edge was not created.

The files were converted using a utility available within the AFCTB with no reported errors. However file 2129-1i did not create a valid draw file. When specific views or drawings were selected the system reported a segment fault and did a core dump. The file created from 399-2i was read

into Island Software's *IslandDraw*, displayed and printed without a reported error. Additional files were created using the two views in the 399 file and displayed without a problem.

The files were read using AUTODESK's *AutoCAD R12* with translator version 5.1. Both files had reported errors in the 100 entity. The reported errors relate to the radii problem noted above. Both files were displayed without a problem. Two drawing files were generated during the conversion process of file 2129-1i. The first was noted as blank. The second contained two drawings. Sample dimension points were tested and found to match the drawing.

The files were converted using Cadkey's *ig2c* utility. The resulting files were read into Cadkey's *Cadkey*, displayed and printed. Both the 3-D model and drawing appeared in the same screen. It was noted that some entities, which were noted above, appeared to be missing. Sample dimension points were tested and found to match the drawing.

The files were read into Carberry's *CADLeaf* software without a reported error. The font was noted as being different than the remaining systems. Some thickening of circles was noted in both files.

The files were read using IDA's *CALSView*. File 2129 caused the system to crash every time it was read. Normally a core dump resulted. File 399 appeared to be complete. All lines appeared to be present, with some text over flow noted.

The files were read using IDA's *IGESView for Windows*. Some lines that were partly blanked were displayed and printed.

The files were read using InterCAPS' *X-Change* with no reported errors. When displayed and printed, the partly blanked lines were completely missing.

The IGES files were converted using Intergraph's *I/CIGES* utility without a reported error. The resulting files were read into Intergraph's *I/EMS* and displayed. The 3-D models appeared to be complete with the exception of some missing lines. These lines were not created in the original model and should not have been displayed.

The files were read using ITI's *IGESWorks* without a reported error. When the files were displayed and printed it was noted that many lines were missing from the drawing.

The IGES files were converted using Rosetta Technologies' *Prepare* with reported errors. The reported errors are due to a higher level of precision specified than can be used. The resulting files were read into Rosetta Technologies' *Preview*, displayed and printed. The partly blanked lines were completely displayed. A sample dimension was inserted and it matched the length specified in the drawing exactly.

Because CADDS4 does not have a CALS IGES output, it was not expected to generate valid CALS IGES files. This was found to be true during the evaluation.

Errors were reported in the basic IGES files during the evaluation.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included in this evaluation.

6. Raster Analysis

No Raster files were included in this evaluation.

7. CGM Analysis

No Computer Graphics Metafiles (CGM) were included in this evaluation.

8. Conclusions and Recommendations

The stated purpose of this evaluation was to determine the amount of data that could be transferred between CADDS4 and other systems. It was found that the transfer of most data could be accomplished without a problem. The models appeared to be incomplete, and this was reflected by the reading systems.

The dimensional data appears to have been passed correctly. Sample data points were found to be the same as referenced on the drawing.

Problems were revealed in partially blanked lines. Some systems did not display these lines at all, and some displayed the complete lines including the blanked sections.

While the submitted files did not meet the CALS MIL-D-28000A, the systems in the AFCTB were able to read and display the information. Data that was missing does not appear to have been added during the creation of the files. All systems within the AFCTB were able to display usable amounts of information, which could be used to manufacture the defined parts. All part information located in the drawing information blocks was passed to all systems.

9. Appendix A - Detailed IGES Analysis

9.1 File 399-2i

9.1.1 Parser/Verifier Log

9.1.1.1 Basic IGES

```
************************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
************************************

Input file is 399-2i.igs

Checking conformance to Standard IGES

Today is July 26, 1994  3:58 PM

************************************
*****    CHECK FILE SYNTAX    *****
************************************

   Section        Records

   Start             1
   Global            4
   Directory      2700  (   1350 Entities)
   Parameter      1650
   Terminate         1

   No syntax errors detected.

************************************
*****  SUMMARY AND STATISTICS  ****
************************************
```

```
*** File and Product Name Information ***

   File name from sender     = '399-2'
   File creation Date.Time   = '940719.155421'
   Model change Date.Time    = ''
   Author                    = 'Sue Webster'
   Department                = '35400'
   Product name from sender  = 'h-46.eng.399-2'
   Destination product name  = 'h-46.eng.399-2'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'
   Preprocessor version   = 'IGES VERSION 4.0 (06-OCT-88)'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    14

*** Global Model Data ***

   Model scale             =  1.0000E+00
   Unit flag               =  1
   Units                   =  'INCH'
   Line weights            =  32767
   Maximum line thickness  =  3.276700E+01
   Minimum line thickness  =  1.000000E-03
   Granularity             =  1.000000E-06
   Maximum coordinate      =  0.000000E+00
CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be
              defaulted to zero.

   Drafting standard applicable to original data is ANSI.

*** Status Flag Summary ***

 Blank status: Visible                    938
               Blanked                    412
```

Independence:	Independent	820
	Physically Subordinate	516
	Logically Subordinate	0
	Totally Subordinate	14
Entity use:	Geometry	721
	Annotation	489
	Definition	140
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	1350
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	51	Circular arc
100	0	1	4	
100	0	3	112	
100	0	4	18	
100	0	5	50	
100	0	72	1	
102	0	0	2	Composite curve
106	31	252	2	Section lines - General use, iron, brick, stone masonry
106	40	0	24	Witness line
108	1	0	8	Plane, Bounded
110	0	0	192	Line
110	0	1	106	
110	0	4	49	
110	0	5	203	
110	0	252	147	
124	0	0	25	Transformation matrix
210	0	1	4	General label
212	0	0	23	General note
212	0	1	61	
212	0	252	87	
214	3	0	28	Leader arrow - Filled triangle
216	0	1	12	Linear dimension
230	0	252	2	Sectioned area (Standard Crosshatching)

304	2	0	2	Line font definition - repeating pattern
314	0	0	1	Color definition
402	4	0	128	Views visible, Color, Line weight instance
404	0	0	1	Drawing
406	15	0	3	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
410	0	0	2	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	492
1	187
3	112
4	67
5	253
72	1
252	238

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 1350

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
149	2	-	24	8	249	-	-	Undefined
87	-	-	2	-	409	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	39	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	25	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
 *** Line Widths Used in Data ***

     Weight       Count      Width

  Defaulted      1350       (0.0010)

 *** Colors Used in Data ***

  Defaulted       496
      Green       112
     Yellow       238
       Cyan       251
       User       253

 ************************************
 *****     ENTITY ANALYSIS      *****
 ************************************

 *** Entity type: 100

ERROR   2242: Radii not equal at D    203; difference is 4.999840E-06.
WARNING 2492: Undefined line font value (0) specified for D    483.
WARNING 2492: Undefined line font value (0) specified for D    495.
WARNING 2492: Undefined line font value (0) specified for D    499.
WARNING 2492: Undefined line font value (0) specified for D    509.
ERROR   2242: Radii not equal at D    521; difference is 3.736742E-06.
WARNING 2492: Undefined line font value (0) specified for D    545.
ERROR   2242: Radii not equal at D    595; difference is 3.736742E-06.
WARNING 2492: Undefined line font value (0) specified for D    601.
WARNING 2492: Undefined line font value (0) specified for D    603.
WARNING 2492: Undefined line font value (0) specified for D    605.
WARNING 2492: Undefined line font value (0) specified for D    647.
WARNING 2492: Undefined line font value (0) specified for D    695.
WARNING 2492: Messages regarding undefined line font suppressed.
ERROR   2242: Radii not equal at D    823; difference is 3.736499E-06.
ERROR   2242: Radii not equal at D    855; difference is 3.736499E-06.
ERROR   2242: Radii not equal at D   1977; difference is 1.503891E-06.
ERROR   2242: Radii not equal at D   1983; difference is 1.503891E-06.
ERROR   2242: Radii not equal at D   1991; difference is 1.503891E-06.
ERROR   2242: Radii not equal at D   1993; difference is 3.329138E-06.
ERROR   2242: Radii not equal at D   1997; difference is 1.503891E-06.
ERROR   2242: Messages regarding unequal radii suppressed.

 *** Entity type: 102
```

```
 *** Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D   2209.
NITPICK 2076: Entity does not have Annotation flag set at D   2211.
NITPICK 2076: Messages regarding entity use (annotation) suppressed.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   2347.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   2349.

 *** Entity type: 108

ERROR   2012: Bounded Plane defined without a boundary specified at D     53.
ERROR   2012: Bounded Plane defined without a boundary specified at D     55.
ERROR   2012: Bounded Plane defined without a boundary specified at D     57.
ERROR   2012: Bounded Plane defined without a boundary specified at D     59.
ERROR   2012: Bounded Plane defined without a boundary specified at D     67.
ERROR   2012: Bounded Plane defined without a boundary specified at D     69.
ERROR   2012: Bounded Plane defined without a boundary specified at D     71.
ERROR   2012: Bounded Plane defined without a boundary specified at D     73.

 *** Entity type: 110

  --   697 lines averaging 1.167336E+00 units --

 *** Entity type: 124

25 transformation matrices, 1 non-zero translations.
NOTE    2341: 1 matrices contain translation information.

 *** Entity type: 210

 *** Entity type: 212

       200 text strings in data file.
       Average text aspect ratio in file is 0.9874040.
       Minimum text aspect ratio in file is 0.5000000.
       Maximum text aspect ratio in file is 1.2000000.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1     108   Default ASCII Style
          2      89   LeRoy
       1002       3   Symbol Font 2
```

```
 *** Entity type: 214

      Average arrow aspect ratio in file is 3.0000000.
      Minimum arrow aspect ratio in file is 3.0000000.
      Maximum arrow aspect ratio in file is 3.0000000.

 *** Entity type: 216

 *** Entity type: 230

 *** Entity type: 304

Default line font substitute at D     383 is Center-line.
Default line font substitute at D     473 is Dashed.

 *** Entity type: 314

  Color specified at D      47 has no name.
    Default color substitute is cyan.

 *** Entity type: 402

 *** Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D    2699.
Drawing at D    2699 contains 2 views.
NITPICK 2289: View (D      75) is not logically subordinate to drawing at D
              2699.
NITPICK 2289: View (D      61) is not logically subordinate to drawing at D
              2699.
Drawing at D    2699 contains 443 annotation entities.

 *** Entity type: 406

 *** Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D      61.
  Scale of view at D      61 is 1.000000E+00.
CAUTION 2315: Matrix associated with view contains translation information at D
              61.
Orthographic View entity at D      61 has  4 clipping planes specified.
   XMIN =     -0.739      XMAX =     11.910
   YMIN =     -1.930      YMAX =      2.669
   ZMIN = Not Set         ZMAX = Not Set
```

```
NITPICK 2073: Entity use flag must be 1 for View entity at D     75.
  Scale of view at D     75 is 1.000000E+00.
Orthographic View entity at D     75 has  4 clipping planes specified.
   XMIN =    -0.739     XMAX =    12.115
   YMIN =    -1.807     YMAX =     2.423
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2006: 8 Missing pointers.
2011: 2 Invalid subordinate relationships.
2015: 47 Mathematically incorrect definitions.
2016: 27 Invalid entity use flag.
2038: 809 Invalid Line font values.

 *** Error Summary ***

     0 fatal errors
     0 severe errors
    55 errors
   809 warnings
     4 cautions
    29 nitpicks
     1 notes

 *** End of Analysis of 399-2i.igs ***
```

9.1.1.2 CALS IGES Class II

```
**********************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
**********************************

Input file is 399-2i.igs
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)
Today is July 26, 1994  3:57 PM

**********************************
*****    CHECK FILE SYNTAX    *****
**********************************

   Section        Records

   Start              1
   Global             4
   Directory       2700  (   1350 Entities)
   Parameter       1650
   Terminate          1

   No syntax errors detected.

**********************************
*****  SUMMARY AND STATISTICS  ****
**********************************

*** File and Product Name Information ***

   File name from sender     = '399-2'
   File creation Date.Time   = '940719.155421'
   Model change Date.Time    = ''
   Author                    = 'Sue Webster'
   Department                = '35400'
   Product name from sender  = 'h-46.eng.399-2'
   Destination product name  = 'h-46.eng.399-2'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'
```

```
*** Originating System Data ***

   System ID             = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'
   Preprocessor version  = 'IGES VERSION 4.0 (06-OCT-88)'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***

   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    14

*** Global Model Data ***

   Model scale            =  1.0000E+00
   Unit flag              =  1
   Units                  =  'INCH'
   Line weights           =  32767
   Maximum line thickness =  3.276700E+01
   Minimum line thickness =  1.000000E-03
   Granularity            =  1.000000E-06
   Maximum coordinate     =  0.000000E+00

CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be
              defaulted to zero.

   Drafting standard applicable to original data is ANSI.

*** Status Flag Summary ***

 Blank status: Visible                    938
               Blanked                    412

 Independence: Independent                820
               Physically Subordinate     516
               Logically Subordinate        0
               Totally Subordinate         14

 Entity use:   Geometry                   721
               Annotation                 489
               Definition                 140
               Other                        0
               Logical/Positional           0
               2D parametric                0
               Construction geometry        0
               Not Specified                0
```

Hierarchy:	Structure DE applies	0
	Subordinate DE applies	1350
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	51	Circular arc
100	0	1	4	
100	0	3	112	
100	0	4	18	
100	0	5	50	
100	0	72	1	
102	0	0	2	Composite curve
106	31	252	2	Section lines - General use, iron, brick, stone masonry
106	40	0	24	Witness line
108	1	0	8	Plane, Bounded
110	0	0	192	Line
110	0	1	106	
110	0	4	49	
110	0	5	203	
110	0	252	147	
124	0	0	25	Transformation matrix
210	0	1	4	General label
212	0	0	23	General note
212	0	1	61	
212	0	252	87	
214	3	0	28	Leader arrow - Filled triangle
216	0	1	12	Linear dimension
230	0	252	2	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
314	0	0	1	Color definition
402	4	0	128	Views visible, Color, Line weight instance
404	0	0	1	Drawing
406	15	0	3	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
410	0	0	2	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	492
1	187
3	112
4	67
5	253
72	1
252	238

*** Labeling Information ***

0% of the entities are labeled.
Unlabeled 1350

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
149	2	-	24	8	249	-	-	Undefined
87	-	-	2	-	409	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	39	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	25	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	1350	(0.0010)

*** Colors Used in Data ***

Defaulted	496
Green	112
Yellow	238
Cyan	251
User	253

```
**********************************
*****     ENTITY ANALYSIS     *****
**********************************

 *** Entity type: 100

ERROR   2242: Radii not equal at D    203; difference is 4.999840E-06.
WARNING 2492: Undefined line font value (0) specified for D    483.
WARNING 2492: Undefined line font value (0) specified for D    495.
WARNING 2492: Undefined line font value (0) specified for D    499.
WARNING 2492: Undefined line font value (0) specified for D    509.
ERROR   2242: Radii not equal at D    521; difference is 3.736742E-06.
WARNING 2492: Undefined line font value (0) specified for D    545.
ERROR   2242: Radii not equal at D    595; difference is 3.736742E-06.
WARNING 2492: Undefined line font value (0) specified for D    601.
WARNING 2492: Undefined line font value (0) specified for D    603.
WARNING 2492: Undefined line font value (0) specified for D    605.
WARNING 2492: Undefined line font value (0) specified for D    647.
WARNING 2492: Undefined line font value (0) specified for D    695.
WARNING 2492: Messages regarding undefined line font suppressed.
ERROR   2242: Radii not equal at D    823; difference is 3.736499E-06.
ERROR   2242: Radii not equal at D    855; difference is 3.736499E-06.
ERROR   2242: Radii not equal at D   1977; difference is 1.503891E-06.
ERROR   2242: Radii not equal at D   1983; difference is 1.503891E-06.
ERROR   2242: Radii not equal at D   1991; difference is 1.503891E-06.
ERROR   2242: Radii not equal at D   1993; difference is 3.329138E-06.
ERROR   2242: Radii not equal at D   1997; difference is 1.503891E-06.
ERROR   2242: Messages regarding unequal radii suppressed.

 *** Entity type: 102
 *** Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D   2209.
NITPICK 2076: Entity does not have Annotation flag set at D   2211.
NITPICK 2076: Messages regarding entity use (annotation) suppressed.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   2347.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D   2349.

 *** Entity type: 108

ERROR   2012: Bounded Plane defined without a boundary specified at D     53.
ERROR   2012: Bounded Plane defined without a boundary specified at D     55.
ERROR   2012: Bounded Plane defined without a boundary specified at D     57.
ERROR   2012: Bounded Plane defined without a boundary specified at D     59.
ERROR   2012: Bounded Plane defined without a boundary specified at D     67.
ERROR   2012: Bounded Plane defined without a boundary specified at D     69.
ERROR   2012: Bounded Plane defined without a boundary specified at D     71.
ERROR   2012: Bounded Plane defined without a boundary specified at D     73.
```

```
 *** Entity type: 110

  --   697 lines averaging 1.167336E+00 units --

 *** Entity type: 124

25 transformation matrices, 1 non-zero translations.
NOTE    2341: 1 matrices contain translation information.

 *** Entity type: 210

 *** Entity type: 212

ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              2359.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              2361.
ERROR   4050: Messages regarding illegal text fonts suppressed.
       200 text strings in data file.
       Average text aspect ratio in file is 0.9874040.
       Minimum text aspect ratio in file is 0.5000000.
       Maximum text aspect ratio in file is 1.2000000.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1     108   Default ASCII Style
          2      89   LeRoy
       1002       3   Symbol Font 2

 *** Entity type: 214

       Average arrow aspect ratio in file is 3.0000000.
       Minimum arrow aspect ratio in file is 3.0000000.
       Maximum arrow aspect ratio in file is 3.0000000.

 *** Entity type: 216

 *** Entity type: 230

 *** Entity type: 304

Default line font substitute at D    383 is Center-line.
Default line font substitute at D    473 is Dashed.
```

```
 *** Entity type: 314

  Color specified at D     47 has no name.
    Default color substitute is cyan.

 *** Entity type: 402

 *** Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D   2699.
Drawing at D   2699 contains 2 views.
NITPICK 2289: View (D     75) is not logically subordinate to drawing at D
              2699.
NITPICK 2289: View (D     61) is not logically subordinate to drawing at D
              2699.
Drawing at D   2699 contains 443 annotation entities.

 *** Entity type: 406

 *** Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D     61.
  Scale of view at D     61 is 1.000000E+00.
CAUTION 2315: Matrix associated with view contains translation information at D
              61.
Orthographic View entity at D     61 has  4 clipping planes specified.
   XMIN =    -0.739     XMAX =    11.910
   YMIN =    -1.930     YMAX =     2.669
   ZMIN = Not Set       ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D     75.
  Scale of view at D     75 is 1.000000E+00.
Orthographic View entity at D     75 has  4 clipping planes specified.
   XMIN =    -0.739     XMAX =    12.115
   YMIN =    -1.807     YMAX =     2.423
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2006: 8 Missing pointers.
2011: 2 Invalid subordinate relationships.
2015: 47 Mathematically incorrect definitions.
2016: 27 Invalid entity use flag.
2038: 809 Invalid Line font values.
4000: 89 Miscellaneous CALS messages
```

```
*** Error Summary ***

    0 fatal errors
    0 severe errors
  144 errors
  809 warnings
    4 cautions
   29 nitpicks
    1 notes

*** End of Analysis of 399-2i.igs ***
```

9.1.2 Parser Log - AutoCAD R12

```
Title: IGESIN Journal (v5.1 Nov 05 1992)
================================================================================
File: C:/TMP/399-2I.xli
Date: Tue, Jul 26, 1994
Time: 16:26:46
================================================================================

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N:   117-10075750
Translating from IGES file:        C:/TMP/399-2I.IGS
           to AutoCAD Drawing:     C:\399-2I.dwg
================================================================================

Options obtained from:  default settings
Curves Approximated to Tolerance of          0.01
Surfaces Approximated to Tolerance of        0.01

Text Font/Style mapping:
IGES Text font      Style Name       ACAD Font
         0                SYMBOL0        iges0
         1               STANDARD          txt
         2                  LEROY          txt
         3                 FUTURA          txt
         6                 COMP80          txt
        12                GOTHICE       gothice
        13                GOTHICI       gothici
        14                 ROMANS        romans
        17                 ROMANT        romant
        18                 ROMAND        romand
        19                    OCR           txt
      1001                SYMBOL1      iges1001
      1002                SYMBOL2      iges1002
      1003                SYMBOL3      iges1003
      2001                  KANJI       bigfont

IGES Linefont/AutoCAD Linetype mapping
IGES Line Font      AutoCAD linetype        Shape file
         0                  BYLAYER
         1                CONTINUOUS
         2                    DASHED             acad.lin
         3                   PHANTOM             acad.lin
         4                    CENTER             acad.lin
         5                       DOT             acad.lin
================================================================================
```

Parse phase

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 37, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 39, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_BAD_PTR_108) ***
(DE 53, TF 108:1) Entity references DE 0. Pointer must must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

*** Warning (IEVM_BAD_PTR_108) ***
(DE 55, TF 108:1) Entity references DE 0. Pointer must must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 203, TF 100:0) Entity's radii are not equal. Start point radius: 4.9654092e-002. Terminate point radius: 4.9649093e-002.

Action taken: Start point moved 2.4999198e-006 units from 2.7254200e+001, 3.8816500e+000 to 2.7254198e+001, 3.8816487e+000. Terminate point moved 2.4999198e-006 units from 2.7168200e+001, 3.8816400e+000 to 2.7168198e+001, 3.8816412e+000.

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 521, TF 100:0) Entity's radii are not equal. Start point radius: 9.9995397e-002. Terminate point radius: 9.9991660e-002.

Action taken: Start point moved 1.8683709e-006 units from -4.8807400e+000, -1.4773700e+000 to -4.8807417e+000, -1.4773693e+000. Terminate point moved 1.8683709e-006 units from -4.8807400e+000, -1.4026400e+000 to -4.8807383e+000, -1.4026393e+000.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 2063, TF 100:0) Entity's radii are not equal. Start point radius: 1.1835267e-001. Terminate point radius: 1.1835712e-001.

Action taken: Start point moved 2.2264143e-006 units from 4.9965000e+000, -1.3499900e-001 to 4.9965004e+000, -1.3500120e-001. Terminate point moved 2.2264143e-006 units from 5.0670000e+000, -9.4999300e-002 to 5.0669983e+000, -9.4997857e-002.

==========

Start Section:

Global Section:

Parameter Delimiter:	,
Record Delimiter:	;
Sending Product ID:	h-46.eng.399-2
File Name:	399-2
System ID:	COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM
Preprocessor Version:	IGES VERSION 4.0 (06-OCT-88)
Size of Integer:	32
Sgl. Precision Mag:	38
Sgl. Precision Sig:	6
Dbl. Precision Mag:	308
Dbl. Precision Sig:	14
Receiving Product ID:	h-46.eng.399-2
Model Space Scale:	1.000000
Unit Flag:	1
Unit String:	INCH
# of Line Weights:	32767
Maximum Line Width:	32.767000
Creation Date:	07/19/94 15:54:21
Minimum Resolution:	0.000001
Maximum Coordinate:	0.000000
Author:	Sue Webster
Organization:	35400
IGES Version Number:	6
Drafting Standard:	3

Entity Summary:

Type	Form	Description	Count
100	0	Circular Arc	236
102	0	Composite Curve	2
106	31	Section Entity	2
106	40	Witness Line	24
108	0	Plane (Unbounded)	8
110	0	Line	697
124	0	Transformation Matrix	25
210	0	General Label	4
212	0	General Note (Simple)	171
214	3	Leader (Filled triangle)	28
216	0	Linear dim - undetermined form	12
230	0	Section Area (Standard Fill)	2
304	2	Line Font Definition (Pattern)	2
314	0	Color Definition	1
402	4	Views Visible, Color, Line wt.	128
404	0	Drawing (form 0)	1
406	15	Property (Name)	3
406	16	Property (Drawing Size)	1
406	17	Property (Drawing Units)	1
410	0	View	2
		Total	1350

Translation phase

Drawing Entity (404 Form 0) at DE 2699, with
   name = 1,
   size = 40.000000, 28.000000,
   units = IN,
was processed in the AutoCAD drawing file: C:\399-2I.dwg

IGES Entity Summary:

Type	Form	Description	Count	Processed	Errors
100	0	Circular Arc	236	236	0
102	0	Composite Curve	2	2	0
106	31	Section Entity	2	2	0
106	40	Witness Line	24	24	0
108	0	Plane (Unbounded)	8	8	0
110	0	Line	697	697	0
210	0	General Label	4	4	0
212	0	General Note (Simple)	171	171	0
214	3	Leader (Filled triangle)	28	28	0
216	0	Linear dim - undetermined form	12	12	0
230	0	Section Area (Standard Fill)	2	2	0
304	2	Line Font Definition (Pattern)	1	1	0
314	0	Color Definition	1	1	0
402	4	Views Visible, Color, Line wt.	128	128	0
404	0	Drawing (form 0)	1	1	0
406	15	Property (Name)	3	3	0
406	16	Property (Drawing Size)	1	1	0
406	17	Property (Drawing Units)	1	1	0
410	0	View	2	2	0
Totals			1324	1324	0

AutoCAD Entity Summary

Entity	Created	Errors
LINE	823	0
CIRCLE	146	0
TEXT	180	0
ARC	90	0
SOLID	4	0
INSERT	12	0
POLYLINE	2	0
DIMENSION	12	0
BLOCK	12	0
Totals	1281	0

Error Summary:

The following message was issued 47 time(s)
Entity's radii are not equal. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued 8 time(s)
Entity references DE %ld%s. Pointer must must reference a Closed Curve entity.

The following message was issued 5 time(s)
Entity has a column which is not a unit vector.

Status: 0
Warning: 60
Error: 0
Fatal: 0

Elapsed Time:

Processor: 00:00:24
Clock: 00:00:25

9.1.3 Prepare Error Log

```
          ERROR REPORT FOR FILE  /novell/94101/399-2i.igs

    >> File record length is 81  (1 record terminator used)

    Terminate section report :

                  File Section     #lines
              +-------------------------------+
              |            START        1     |
              |           GLOBAL        4     |
              |  DIRECTORY ENTRY     2700     |
              |   PARAMETER DATA     1650     |
              |        TERMINATE        1     |
              |                               |
              |          TOTAL       4356     |
              +-------------------------------+
              (Expect 81 X 4356 = 352836 bytes)

    -------------- preliminary format scan complete --------------

>> WARNING: Cannot use maximum power of 10 requested.
      : Requested maximum power of 308 using 307.
      : Field 11 line 2 of GLOBAL section. (Max. Exp. for Double)
C SYSTEM,28HIGES VERSION 4.0 (06-OCT-88),32,38,6,308,14,14Hh-46.eng.399-G      2
                                                ^^^
      ----------------------------------------------------------------------

    Found 0 errors and 1 warnings
```

9.1.4 Parser Log - IGESWorks

```
                    IGES/Works v1.4.1
            International TechneGroup Incorporated
                    Validation Logfile

Date:   July 28, 1994
Model:  399-2i

******************** Validation Parameters ********************

             TOLERANCE CONFIGURATION VALUES
             ------------------------------

ZERO_TOL                    = 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL    = 1.000000e-03
PARM_SPACE_PNT_COIN_TOL     = 1.000000e-08
ISO_PARM_CURVE_TOL          = 1.000000e-08
NON_CONV_TOL                = 1.000000e-12
KNOT_COIN_TOL               = 1.000000e-10
SAME_INTER_TOL              = 1.000000e-12
PARALLEL_LINES_TOL          = 1.000000e-07
ANGLE_COIN_TOL              = 1.000000e-05
PNT_PROJ_TOL                = 1.000000e-07
COLIN_TOL                   = 1.000000e-07
COPLANAR_TOL                = 1.000000e-08
ZERO_NORMAL_TOL             = 1.000000e-06
SAME_TANGENT_TOL            = 1.000000e-04
SAME_CURVATURE_TOL          = 1.000000e-04
SAME_DERIVATIVE_TOL         = 1.000000e-03
MODEL_LINEAR_APPROX_TOL     = 2.220446e-16

************** Entity Listing Before Validation ***************

  Count       Type        Form        Description
  -----       ----        ----        -----------
    236        100           0        Circular Arc
      2        102           0        Composite Curve
      2        106          31        Section Entity
     24        106          40        Witness Line
      8        108           1        Plane (Bounded)
    697        110           0        Line
     25        124           0        Transformation Matrix
      4        210           0        General Label
    171        212           0        General Note (Simple)
     28        214           3        Leader (Filled triangle)
     12        216           0        Linear dim - undetermined form
```

2	230	0	Section Area (Standard Fill)
2	304	2	Line Font Definition (Pattern)
1	314	0	Color Definition
128	402	4	Views Visible, Color, Line wt.
1	404	0	Drawing (form 0)
3	406	15	Property (Name)
1	406	16	Property (Drawing Size)
1	406	17	Property (Drawing Units)
2	410	0	View

1350 - Number of entities in selection list

********** Entity Validation **********

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 37, TF 124:0) This Transformation Matrix entity (124) has a a column that is not a unit vector within the stated tolerance.
Action taken: All vectors have been unitized.

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 39, TF 124:0) This Transformation Matrix entity (124) has a a column that is not a unit vector within the stated tolerance.
Action taken: All vectors have been unitized.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_BAD_PTR_108) ***
(DE 53, TF 108:1) This Bounded Plane entity (108:1, 108:-1) references DE 0. The pointer must reference a Closed Curve entity.
Action taken: The form number was changed from 1 to 0.

*** Warning (IEVM_BAD_PTR_108) ***
(DE 55, TF 108:1) This Bounded Plane entity (108:1, 108:-1) references DE 0. The pointer must reference a Closed Curve entity.
Action taken: The form number was changed from 1 to 0.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 203, TF 100:0) This circular arc entity's start point and end point radii are not equal in length. Start point radius: 4.9654092e-02. Terminate point radius: 4.9649093e-02.
Action taken: Start point moved 2.4999198e-06 units from 2.7254200e+01, 3.8816500e+00 to 2.7254198e+01, 3.8816487e+00. Terminate point moved 2.4999198e-06 units from 2.7168200e+01, 3.8816400e+00 to 2.7168198e+01, 3.8816412e+00.

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 521, TF 100:0) This circular arc entity's start point and end point radii are not equal in length. Start point radius: 9.9995397e-02. Terminate point radius: 9.9991660e-02.
Action taken: Start point moved 1.8683709e-06 units from -4.8807400e+00, -1.4773700e+00 to -4.8807417e+00, -1.4773693e+00. Terminate point moved 1.8683709e-06 units from -4.8807400e+00, -1.4026400e+00 to -4.8807383e+00, -1.4026393e+00.

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global	Section	1	1	0	0	0	0
100	0	236	189	0	47	0	0
102	0	2	2	0	0	0	0
106	31	2	2	0	0	0	0
106	40	24	24	0	0	0	0
108	0	8	0	0	8	0	0
110	0	697	697	0	0	0	0
124	0	25	20	0	5	0	0
210	0	4	4	0	0	0	0
212	0	171	171	0	0	0	0
214	3	28	28	0	0	0	0
216	0	12	12	0	0	0	0
230	0	2	2	0	0	0	0
304	2	2	2	0	0	0	0
314	0	1	1	0	0	0	0
402	4	128	128	0	0	0	0
404	0	1	1	0	0	0	0
406	15	3	3	0	0	0	0
406	16	1	1	0	0	0	0
406	17	1	1	0	0	0	0
410	0	2	2	0	0	0	0
Totals:		1351	1291	0	60	0	0

The following message was issued and suppressed 42 times:

This circular arc entity's start point and end point radii are not equal in length. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued and suppressed 3 times:

This Bounded Plane entity (108:1, 108:-1) references DE %ld%s. The pointer must reference a Closed Curve entity.

A message is suppressed when it has been issued more than 5 times. This value is controlled by the 'MAX_MESSAGE' configuration parameter.

****

9.1.5 Intergraph Log File

```
IGES Translator Log File
IGES to I/EMS processing
Command line used:
iges -d in -i /novell/94101/21291i.igs -o /novell/94101/21291i.dgn -s
/cals/ip32/ems/config/seed_file -l /novell/94101/21291i.log

Processing started: Thu Jul 28 09:04:37 1994

Seed file used: /cals/ip32/ems/config/seed_file

                        ** Generic Information **
------------------------------------------------------------------------------

IGES Version:                   4.0
IGES File:                      "/novell/94101/21291i.igs"
MODEL File:                     "/novell/94101/21291i.dgn"
LOG File:                       "/novell/94101/21291i.log"
Application Protocol:           ANSI IGES
Defaulted Values:
        Chord Height tolerance of 0.010000 has been used

                        ** Start Section **
------------------------------------------------------------------------------

                        ** Global Section **
------------------------------------------------------------------------------

1.  Parameter delimiter: ','
2.  Record delimiter: ';'
3.  Product Identification of sending system: "h-46.eng.2129-1"
4.  File Name:  "2129-1i"
5.  System ID:  "COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM"
6.  Preprocessor Version: "IGES VERSION 4.0 (06-OCT-88)"
7.  Number of bits for integer representation: 32
8.  Maximum power of ten in single precision floating point: 38
9.  Number of significant digits in single precision floating point: 6
10. Maximum power of ten in double precision floating point: 308
11. Number of significant digits in double precision floating point: 14
12. Product Identification of receiving system: h-46.eng.2129-1
13. Model space scale: 1.000000
14. Unit flag: 1
15. Units: "INCH"
16. Maximum number of line weight gradations: 15
17. Size of maximum line width in units: 1077961261
18. Date and time of file generation: "940720.085344"
```

19. Minimum user intended resolution: 0.000001
20. Approximate maximum coordinate value: 0.000000
21. Name of author: Sue Webster
22. Author's organization: 35400 Cherry Point
23. Integer value corresponding to IGES version: 6
24. Drafting standard: 3

** Qualitative Analysis **

Warning: Form 2 not supported for IGES type 304. DE record #: 715
Warning: Form 2 not supported for IGES type 304. DE record #: 1079
Warning: File 1 already exists, renamed to 21291i.s01. DE record #: 6903
Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 5977
Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 5979
Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 5981

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 6451

** Quantitative Diagnostics **

IGES entity types encountered:

Entity Type:	100 (IGES_ARC)	Quantity:	571
Entity Type:	102 (IGES_COMPOSITE_CURVE)	Quantity:	8
Entity Type:	106 (IGES_COPIOUS_DATA)	Quantity:	109
Entity Type:	108 (IGES_PLANE)	Quantity:	32
Entity Type:	110 (IGES_LINE)	Quantity:	2090
Entity Type:	126 (IGES_B_SPLINE_CURVE)	Quantity:	20
Entity Type:	210 (IGES_GENERAL_LABEL)	Quantity:	24
Entity Type:	212 (IGES_GENERAL_NOTE)	Quantity:	408
Entity Type:	214 (IGES_LEADER)	Quantity:	33
Entity Type:	216 (IGES_LINEAR_DIMENSION)	Quantity:	3
Entity Type:	230 (IGES_SECTIONED_AREA)	Quantity:	8
Entity Type:	304 (IGES_LINE_FONT_DEF)	Quantity:	2
Entity Type:	314 (IGES_COLOR_DEF)	Quantity:	8
Entity Type:	402 (IGES_ASSOCIATIVITY_INST)	Quantity:	184
Entity Type:	404 (IGES_DRAWING)	Quantity:	2
Entity Type:	406 (IGES_PROPERTY)	Quantity:	8

Total: 3510

IGES entity types successfully translated:

Entity Type:	100 (IGES_ARC)	Quantity:	571
Entity Type:	102 (IGES_COMPOSITE_CURVE)	Quantity:	8
Entity Type:	108 (IGES_PLANE)	Quantity:	32
Entity Type:	110 (IGES_LINE)	Quantity:	2090
Entity Type:	126 (IGES_B_SPLINE_CURVE)	Quantity:	20
Entity Type:	212 (IGES_GENERAL_NOTE)	Quantity:	408
Entity Type:	230 (IGES_SECTIONED_AREA)	Quantity:	8
Entity Type:	314 (IGES_COLOR_DEF)	Quantity:	4
Entity Type:	402 (IGES_ASSOCIATIVITY_INST)	Quantity:	184
Entity Type:	404 (IGES_DRAWING)	Quantity:	2
Entity Type:	406 (IGES_PROPERTY)	Quantity:	8

Total: 3335

IGES entity types modified during translation:

Entity Type:	106 (IGES_COPIOUS_DATA)	Quantity:	109
Entity Type:	210 (IGES_GENERAL_LABEL)	Quantity:	24
Entity Type:	214 (IGES_LEADER)	Quantity:	33
Entity Type:	216 (IGES_LINEAR_DIMENSION)	Quantity:	3

Total: 169

IGES entity types ignored during translation:

Entity Type:	304 (IGES_LINE_FONT_DEF)	Quantity:	2
Entity Type:	314 (IGES_COLOR_DEF)	Quantity:	4

Total: 6

IGES entity types failed during translation:

Total: 0

I/EMS elements successfully created:

I/EMS element type: GR3dcircle	Quantity:	485
I/EMS element type: GR3dcirarc	Quantity:	86
I/EMS element type: GRcompcurve	Quantity:	8
I/EMS element type: GRbcsubbc	Quantity:	20
I/EMS element type: GR3dtext	Quantity:	441

I/EMS element type: GRgrgrp	Quantity:	109
I/EMS element type: GRaxhatch	Quantity:	8
I/EMS element type: GR3dlinestr	Quantity:	33
I/EMS element type: GR3dlineseg	Quantity:	2090
I/EMS element type: GRreffile	Quantity:	4

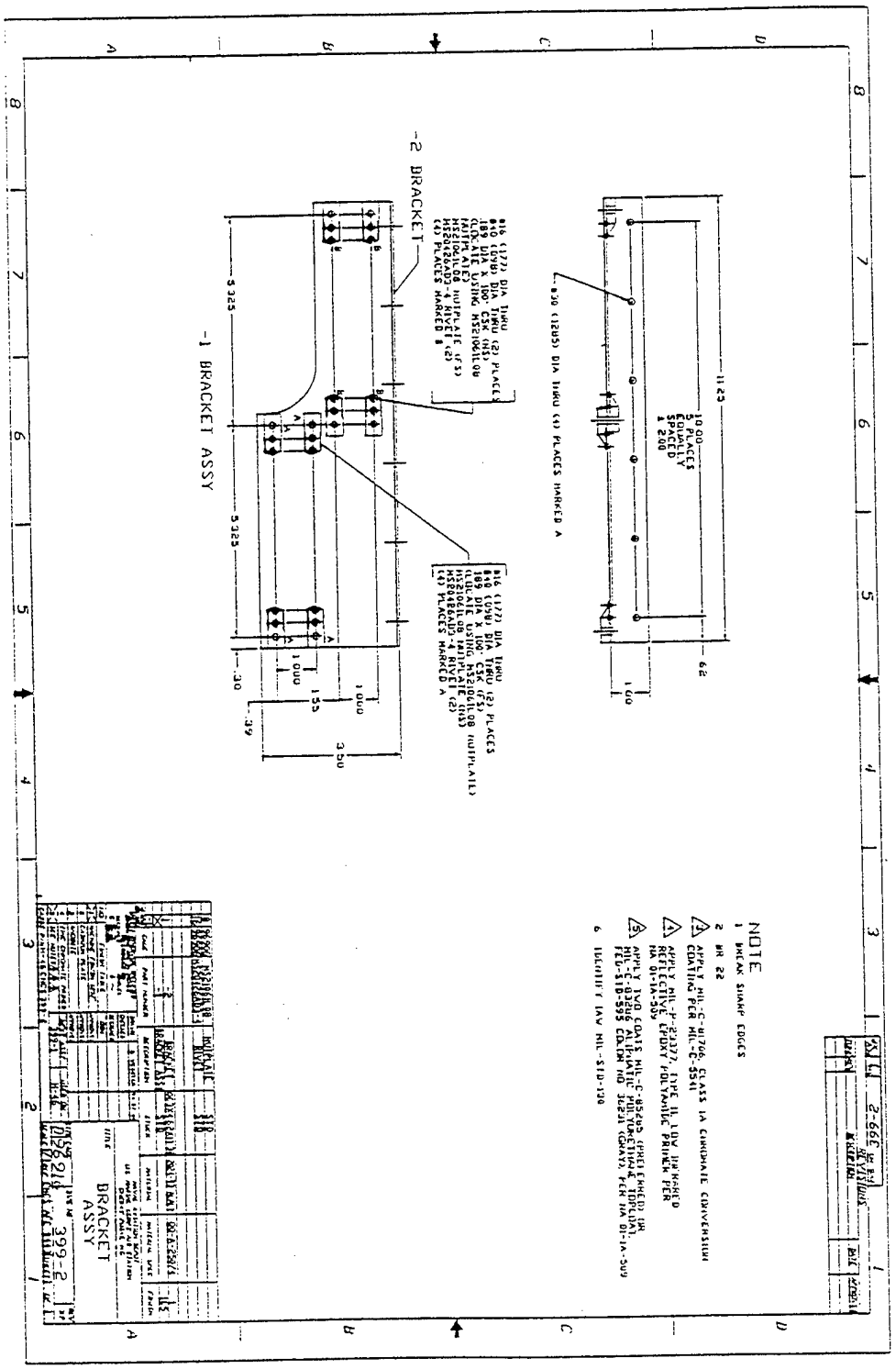
Total: 3284

Processing completed: Thu Jul 28 09:05:38 1994

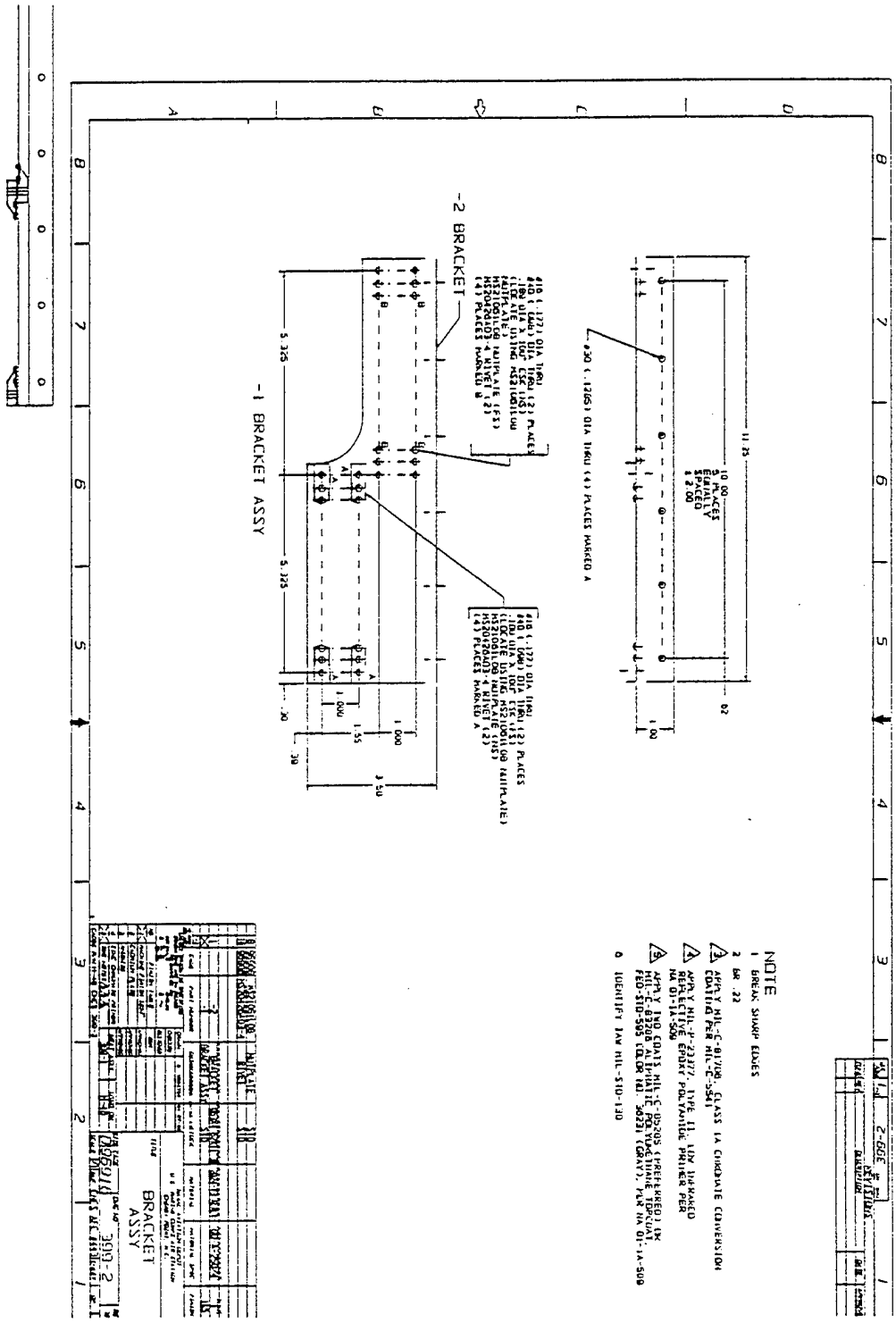
Elapsed time: 00:01:01

-*o*-

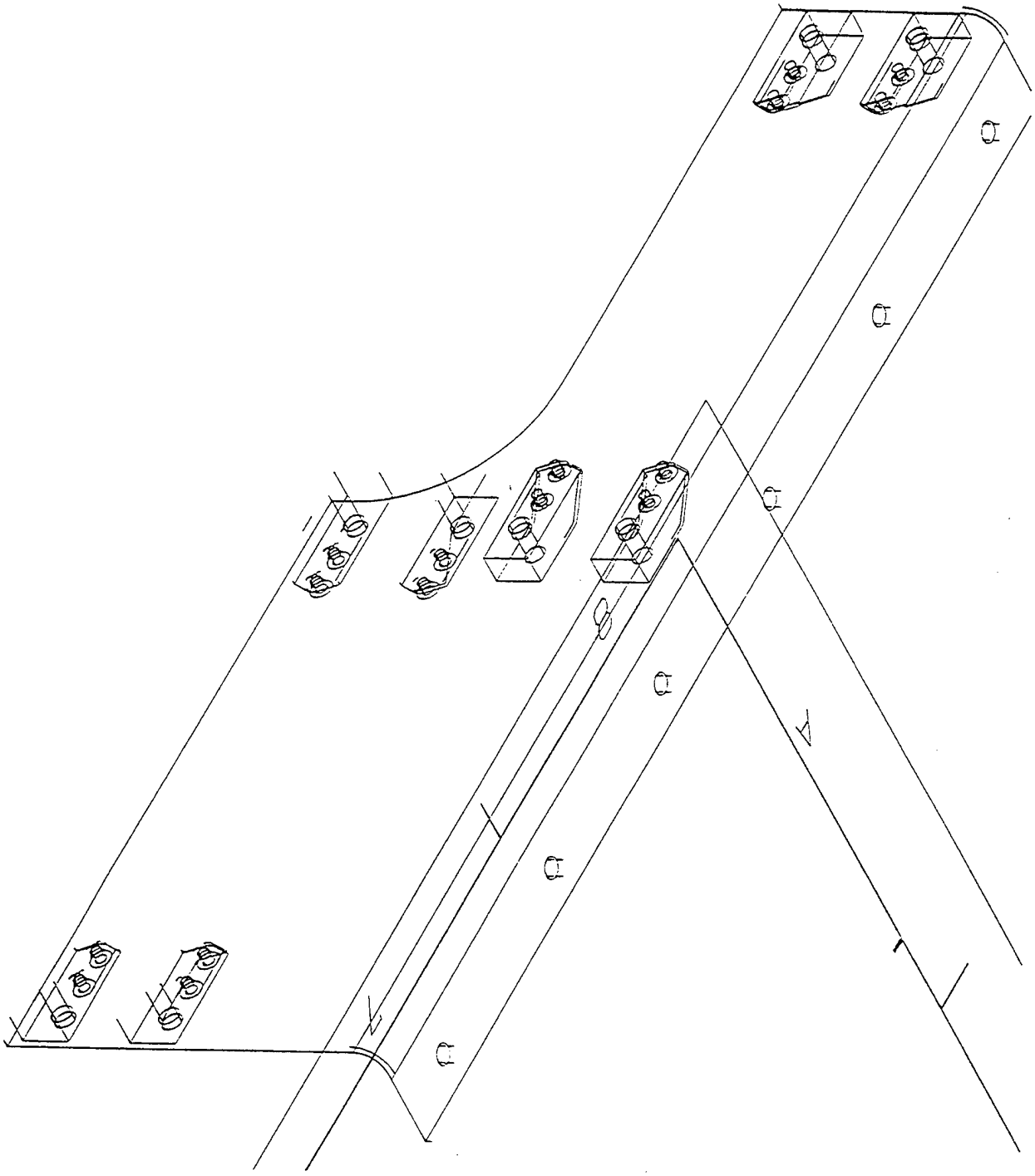
9.1.6 Output AutoCAD R12



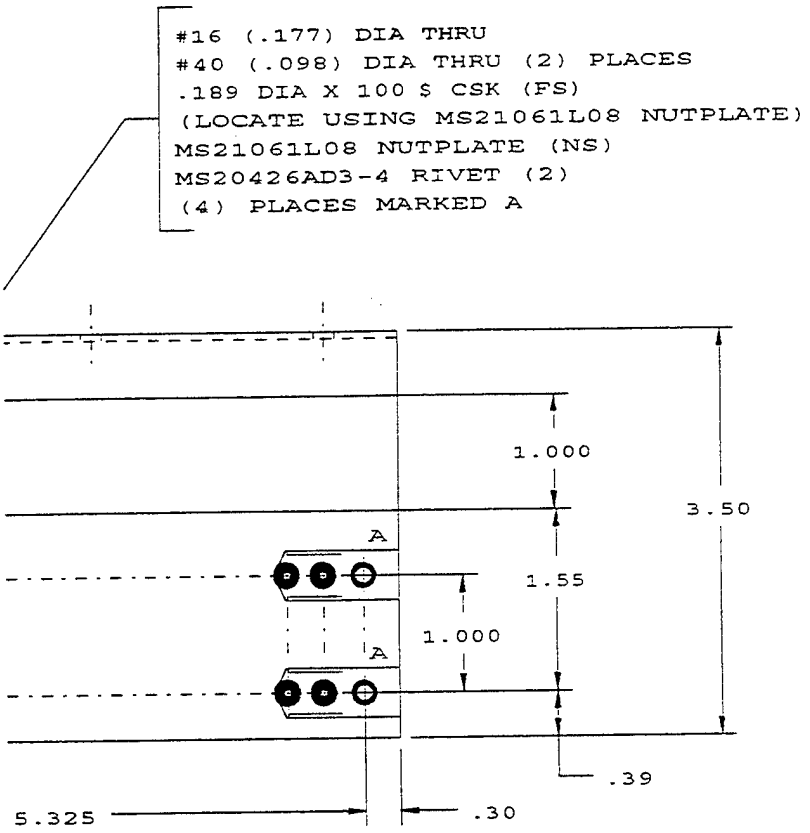
9.1.7 Output Cadkey v6.0 - Drawing



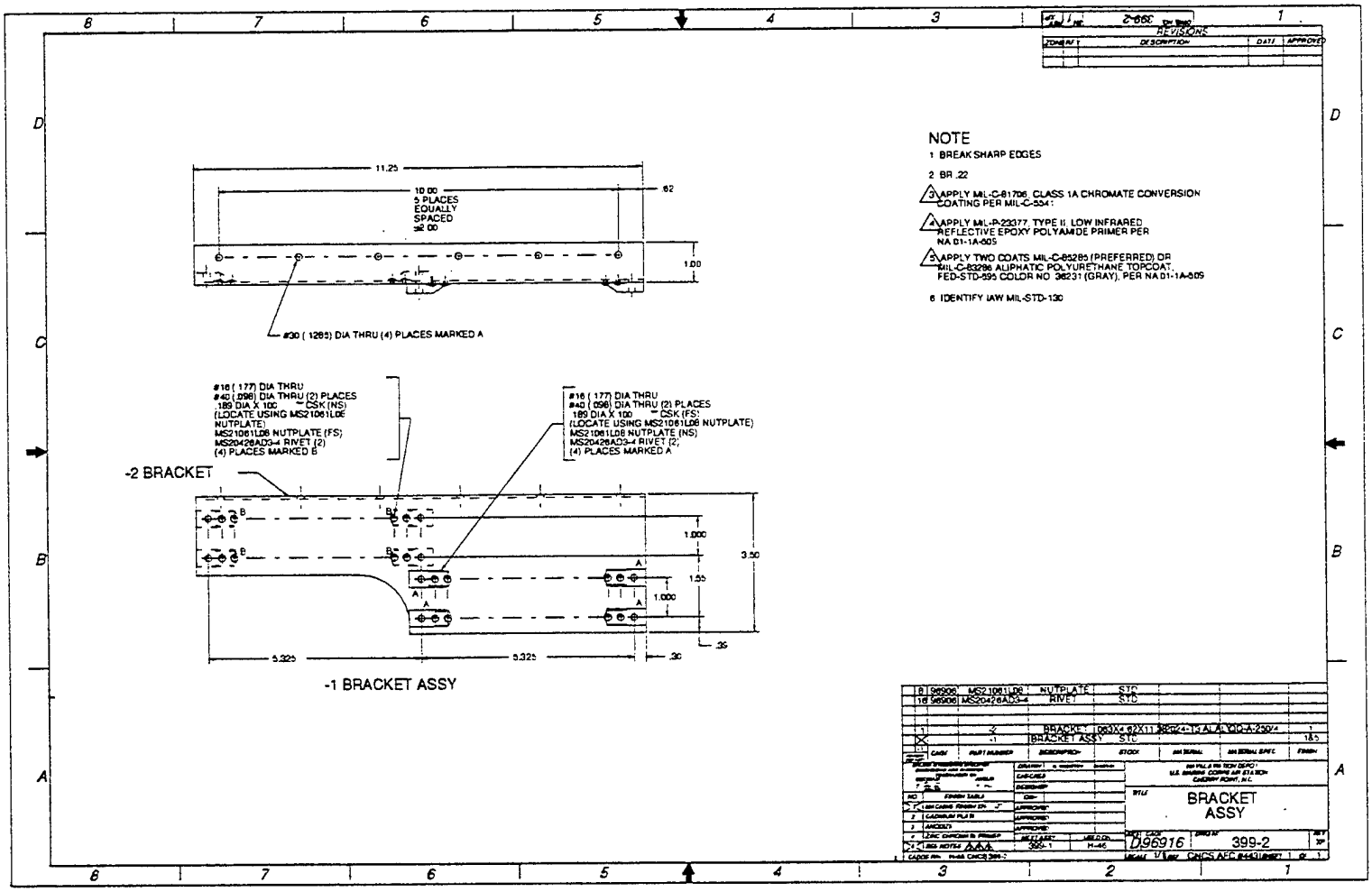
9.1.8 Output Cadkey v6.0 - Model



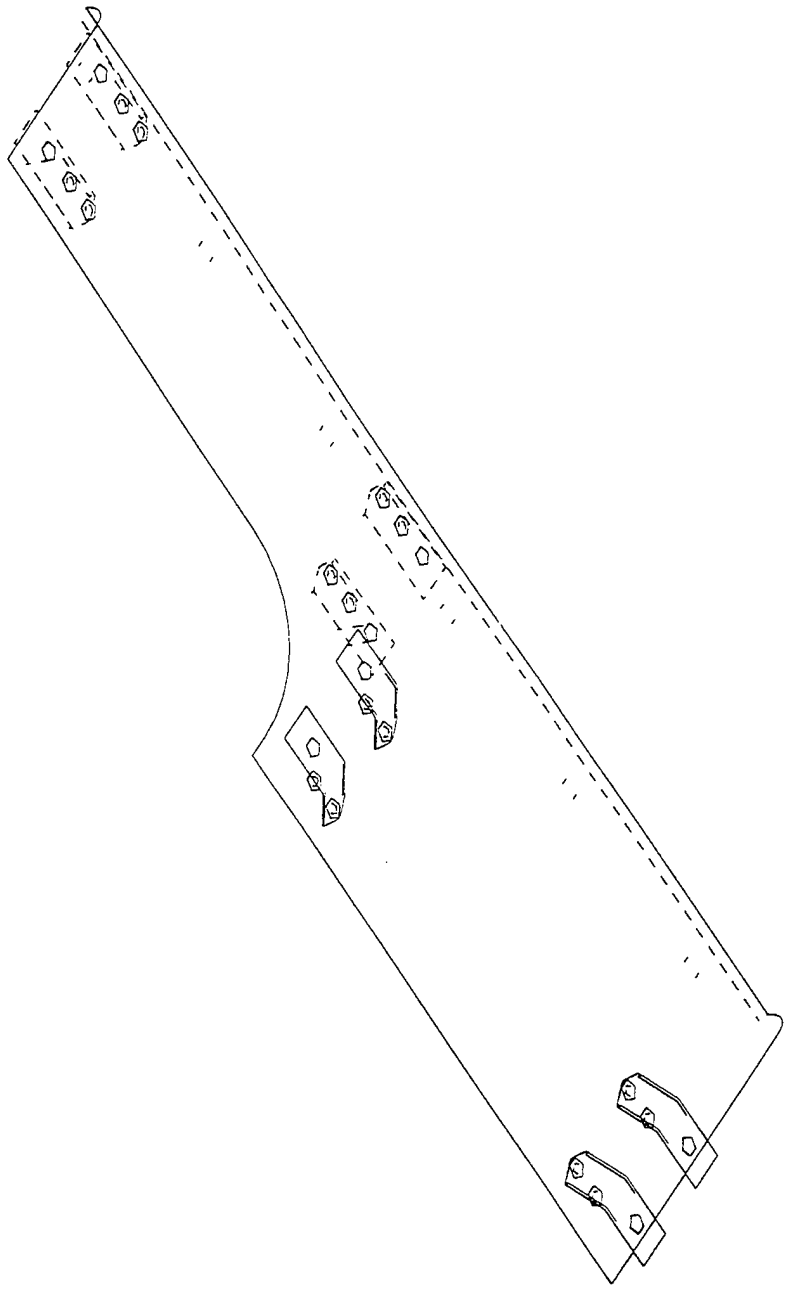
9.1.9 Output CADLeaf - Detail



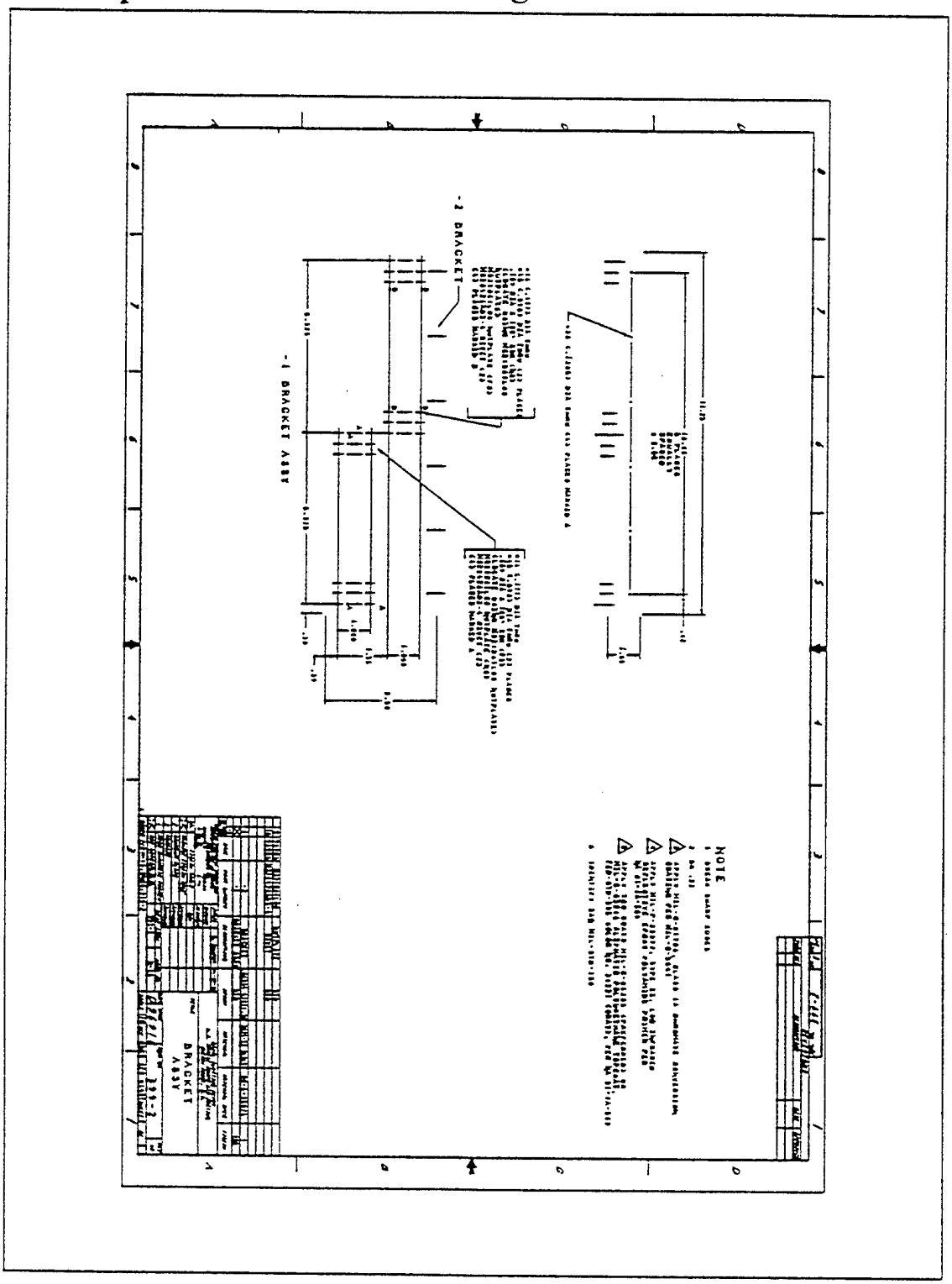
9.1.10 Output CALSView



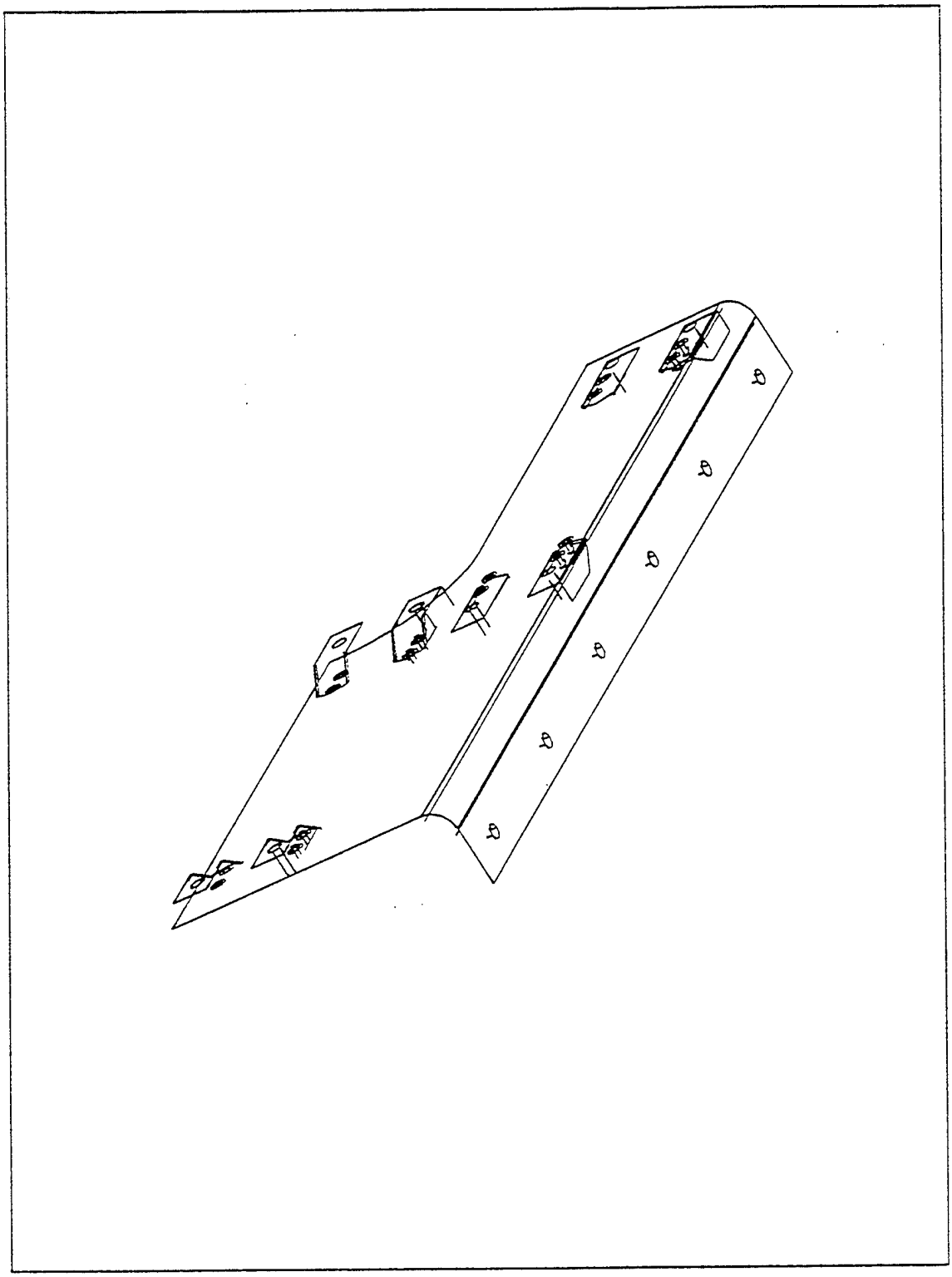
9.1.11 Output IGESView - Model



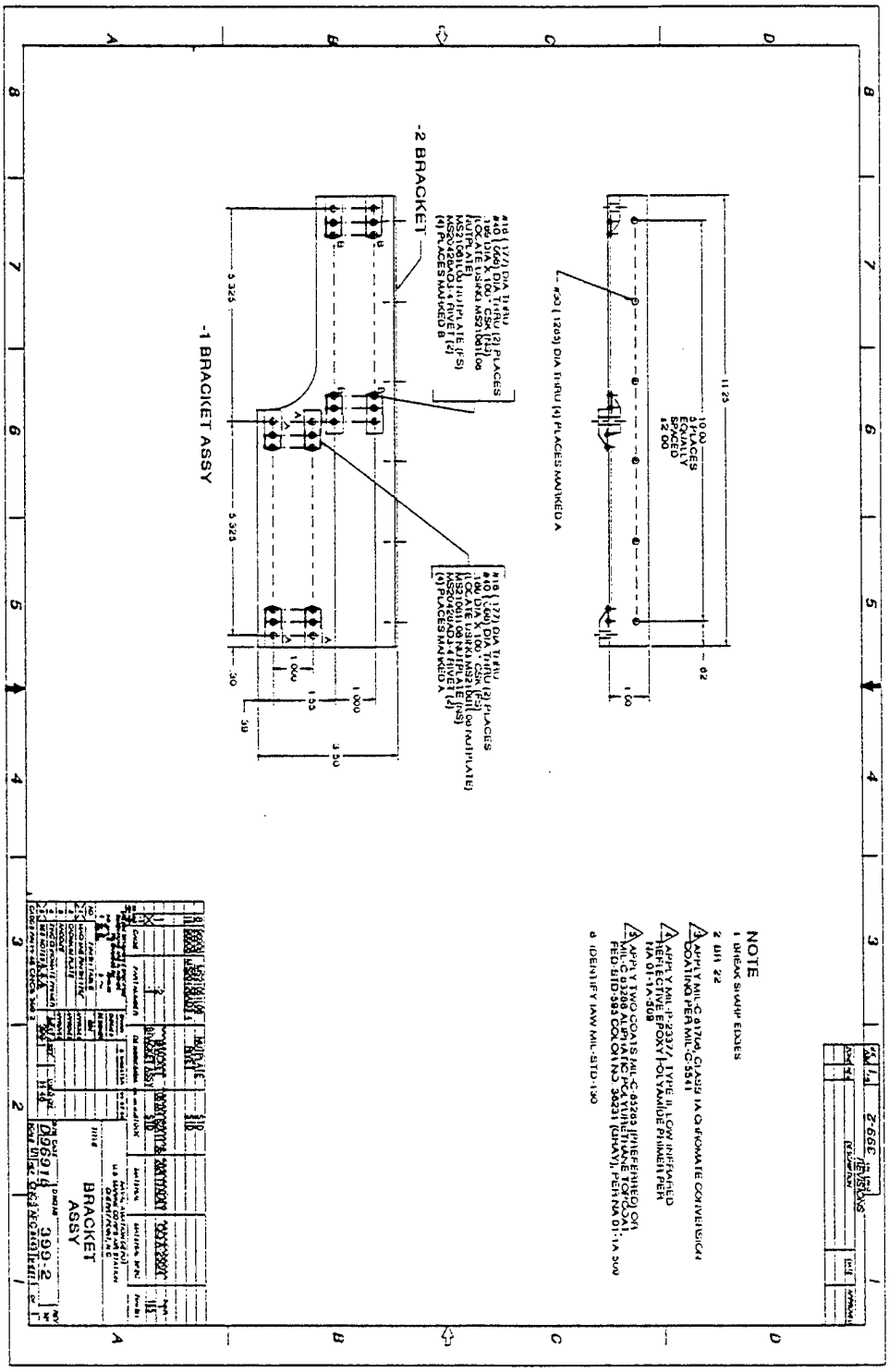
9.1.12 Output IGESWorks - Drawing



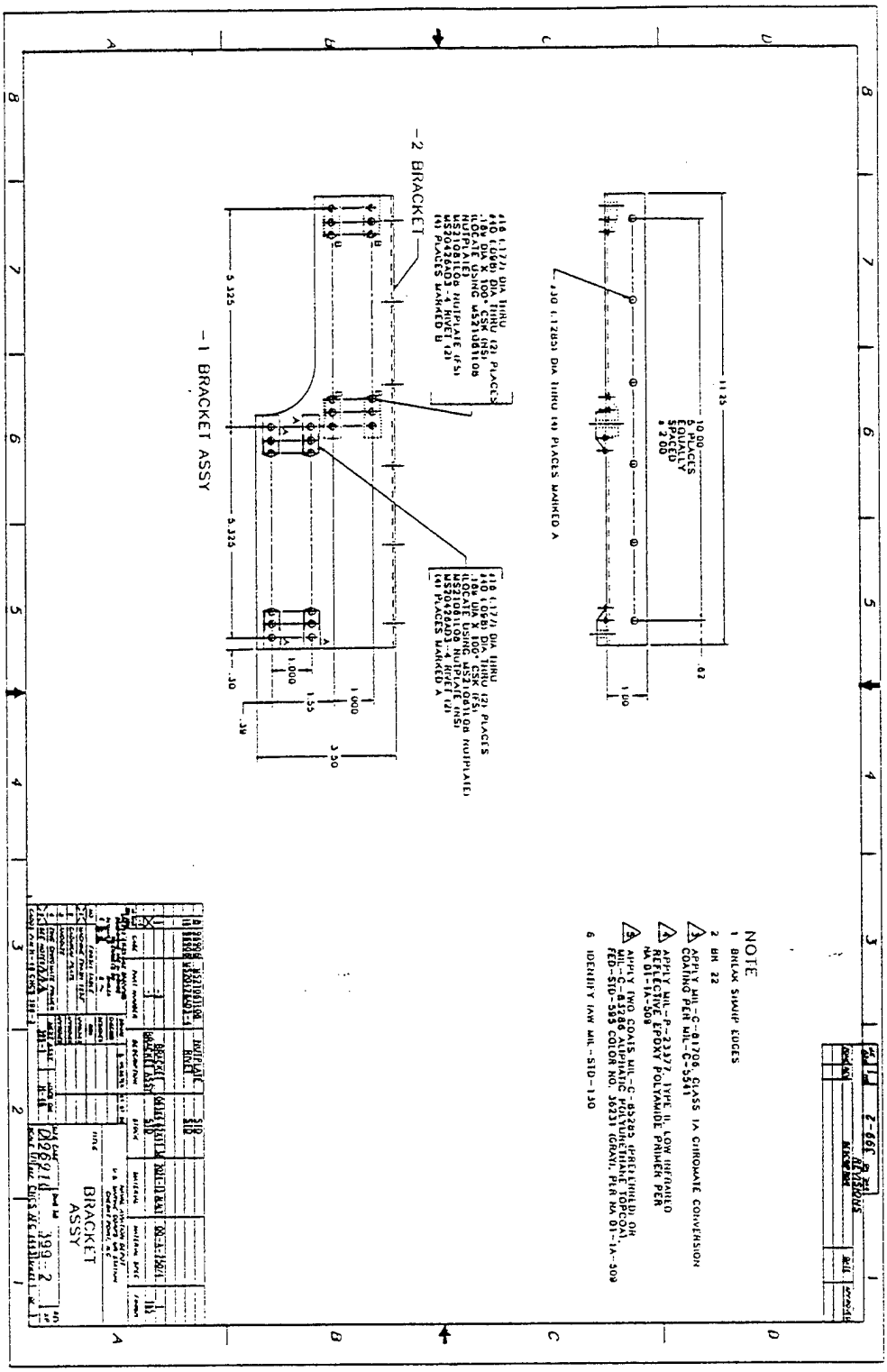
9.1.13 Output IGESWorks - Model



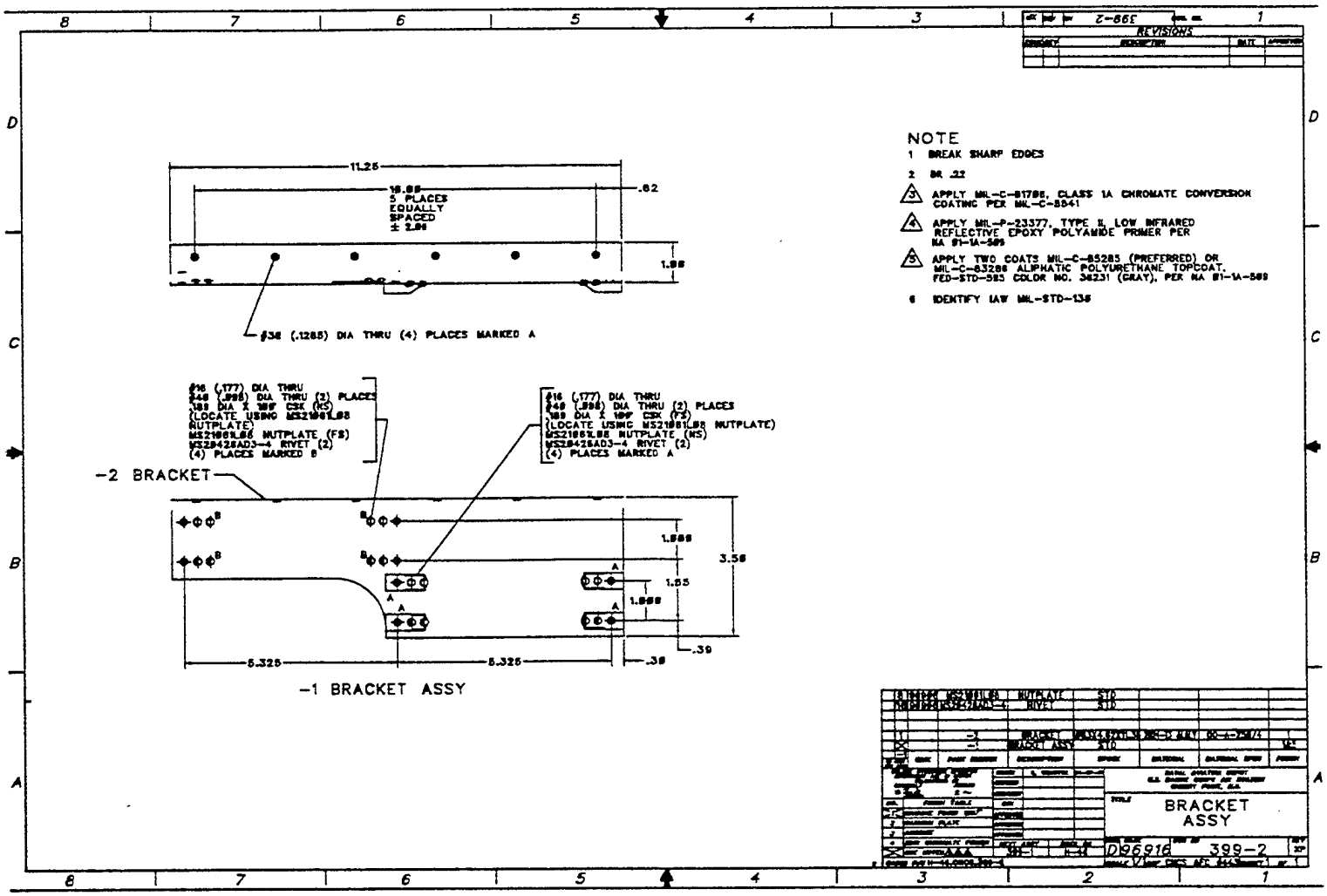
9.1.14 Output IslandDraw



9.1.15 Output Preview - Drawing



9.1.16 Output X-Change - Model



9.2 File 2129-1i

9.2.1 Parser/Verifier Log

9.2.1.1 Basic IGES

```
**********************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
**********************************

Input file is 2129-1i.igs
Checking conformance to Standard IGES
Today is July 26, 1994  3:58 PM

**********************************
*****    CHECK FILE SYNTAX    *****
**********************************

   Section        Records

   Start              1
   Global             4
   Directory       6904  (   3452 Entities)
   Parameter       4441
   Terminate          1

   No syntax errors detected.

**********************************
*****  SUMMARY AND STATISTICS  ****
**********************************

*** File and Product Name Information ***

   File name from sender     = '2129-1i'
   File creation Date.Time   = '940720.085344'
   Model change Date.Time    = ''
   Author                    = 'Sue Webster'
   Department                = '35400 Cherry Point'
   Product name from sender  = 'h-46.eng.2129-1'
   Destination product name  = 'h-46.eng.2129-1'
```

```
*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID             = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'
   Preprocessor version  = 'IGES VERSION 4.0 (06-OCT-88)'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***

   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    14

*** Global Model Data ***

   Model scale            =  1.0000E+00
   Unit flag              =  1
   Units                  =  'INCH'
   Line weights           =  32767
   Maximum line thickness =  3.276700E+01
   Minimum line thickness =  1.000000E-03
   Granularity            =  1.000000E-06
   Maximum coordinate     =  0.000000E+00

CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be
              defaulted to zero.

   Drafting standard applicable to original data is ANSI.

*** Status Flag Summary ***

 Blank status: Visible                    2724
               Blanked                     728

 Independence: Independent                1998
               Physically Subordinate     1398
               Logically Subordinate         0
               Totally Subordinate          56
```

Entity use:	Geometry	1740
	Annotation	1502
	Definition	210
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	3452
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	272	Circular arc
100	0	1	48	
100	0	2	51	
100	0	5	1	
100	0	6	8	
100	0	7	28	
100	0	9	16	
100	0	10	6	
100	0	11	1	
100	0	14	13	
100	0	15	8	
100	0	16	104	
100	0	20	8	
100	0	50	4	
100	0	75	3	
102	0	0	8	Composite curve
106	20	1	92	Centerline
106	31	0	1	Section lines - General use, iron, brick, stone masonry
106	31	1	1	
106	31	2	4	
106	31	4	5	
106	40	0	6	Witness line
108	1	0	16	Plane, Bounded
110	0	0	348	Line
110	0	1	107	
110	0	2	180	
110	0	3	73	
110	0	4	43	

110	0	5	39	
110	0	6	71	
110	0	7	104	
110	0	8	48	
110	0	9	129	
110	0	10	18	
110	0	11	44	
110	0	12	57	
110	0	13	34	
110	0	14	35	
110	0	15	84	
110	0	16	179	
110	0	20	26	
110	0	25	25	
110	0	35	34	
110	0	50	45	
110	0	72	6	
110	0	73	1	
110	0	252	304	
124	0	0	12	Transformation matrix
126	0	0	4	Rational B-spline curve
126	0	2	12	
126	0	72	4	
210	0	1	24	General label
212	0	0	27	General note
212	0	1	217	
212	0	2	16	
212	0	252	148	
214	3	0	33	Leader arrow - Filled triangle
216	0	1	3	Linear dimension
230	0	252	8	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
314	0	0	4	Color definition
402	3	0	40	Views visible instance
402	4	0	144	Views visible, Color, Line weight instance
404	0	0	2	Drawing
406	15	0	6	Property - Name
406	16	0	2	Property - Drawing size
406	17	0	2	Property - Drawing units
410	0	0	4	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	933
1	492
2	263
3	73
4	48
5	40
6	79
7	132
8	48
9	145
10	24
11	45
12	57
13	34
14	48
15	92
16	283
20	34
25	25
35	34
50	49
72	10
73	1
75	3
252	460

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 3452

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
160	8	-	74	16	496	-	-	Undefined
411	-	-	35	-	1518	-	-	Solid
-	-	-	-	-	2	-	-	Dashed
-	-	-	-	-	6	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	12	-	-	User defined

```
 116  118  120  122  124  125  126  128

  -    -    -    -   12    -    -    -   Undefined
  -    -    -    -    -    -   20    -   Solid
  -    -    -    -    -    -    -    -   Dashed
  -    -    -    -    -    -    -    -   Phantom
```

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```
*** Line Widths Used in Data ***

    Weight       Count      Width

 Defaulted      3440       (0.0010)
     14           12       (0.0140)

*** Colors Used in Data ***

 Defaulted      1957
     Green        73
    Yellow       460
   Magenta         2
      Cyan       626
     White        93
      User       241

************************************
*****     ENTITY ANALYSIS     *****
************************************

 *** Entity type: 100

ERROR   2242: Radii not equal at D    195; difference is 8.663394E-05.
ERROR   2242: Radii not equal at D    197; difference is 8.663394E-05.
ERROR   2242: Radii not equal at D    201; difference is 8.669726E-05.
WARNING 2492: Undefined line font value (0) specified for D   2137.
ERROR   2242: Radii not equal at D   2197; difference is 1.486456E-06.
WARNING 2492: Undefined line font value (0) specified for D   2197.
ERROR   2242: Radii not equal at D   2199; difference is 1.486456E-06.
WARNING 2492: Messages regarding undefined line font suppressed.
ERROR   2242: Radii not equal at D   2647; difference is 9.922906E-05.
ERROR   2242: Radii not equal at D   3541; difference is 4.412839E-06.
ERROR   2242: Messages regarding unequal radii suppressed.

 *** Entity type: 102
```

```
 *** Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D   5893.
NITPICK 2076: Entity does not have Annotation flag set at D   5895.
NITPICK 2076: Entity does not have Annotation flag set at D   5905.
NITPICK 2076: Entity does not have Annotation flag set at D   5907.
NITPICK 2076: Entity does not have Annotation flag set at D   5917.
NITPICK 2076: Entity does not have Annotation flag set at D   5919.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5923.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5925.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5927.
CAUTION 2331: Messages suppressed

 *** Entity type: 108

ERROR   2012: Bounded Plane defined without a boundary specified at D   29.
ERROR   2012: Bounded Plane defined without a boundary specified at D   31.
ERROR   2012: Bounded Plane defined without a boundary specified at D   33.
ERROR   2012: Messages regarding bounded plane without boundary suppressed.

 *** Entity type: 110

  --  2034 lines averaging 2.033674E+00 units --

 *** Entity type: 124

12 transformation matrices, 0 non-zero translations.

 *** Entity type: 126

 *** Entity type: 210

 *** Entity type: 212

       477 text strings in data file.
       Average text aspect ratio in file is 1.0446580.
       Minimum text aspect ratio in file is 0.4469697.
       Maximum text aspect ratio in file is 1.4000000.

       FONTS USED IN FILE

       FONT    COUNT   NAME

          1      389   Default ASCII Style
          2       88   LeRoy
```

```
 *** Entity type: 214

      Average arrow aspect ratio in file is 3.0000000.
      Minimum arrow aspect ratio in file is 3.0000000.
      Maximum arrow aspect ratio in file is 3.0000000.

 *** Entity type: 216

 *** Entity type: 230

 *** Entity type: 304

Default line font substitute at D    715 is Phantom.
Default line font substitute at D   1079 is Solid.

 *** Entity type: 314

  Color specified at D     17 has no name.
    Default color substitute is magenta.
  Color specified at D     19 has no name.
    Default color substitute is magenta.
  Color specified at D     21 has no name.
    Default color substitute is cyan.
  Color specified at D     23 has no name.
    Default color substitute is white.

 *** Entity type: 402

 *** Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D   6895.
CAUTION 2325: No views in drawing at D   6895.
Drawing at D   6895 contains 0 annotation entities.
NITPICK 2074: Entity use flag must be 1 for Drawing entity at D   6903.
Drawing at D   6903 contains 4 views.
NITPICK 2289: View (D     79) is not logically subordinate to drawing at D
              6903.
NITPICK 2289: View (D     65) is not logically subordinate to drawing at D
              6903.
NITPICK 2289: View (D     51) is not logically subordinate to drawing at D
              6903.
NITPICK 2289: View (D     37) is not logically subordinate to drawing at D
              6903.
Drawing at D   6903 contains 1346 annotation entities.

 *** Entity type: 406
```

```
 *** Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D     37.
  Scale of view at D     37 is 1.000000E+00.
Orthographic View entity at D     37 has  4 clipping planes specified.
   XMIN =    -0.414     XMAX =    16.984
   YMIN =    -5.001     YMAX =     2.835
   ZMIN = Not Set       ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D     51.
  Scale of view at D     51 is 1.000000E+00.
Orthographic View entity at D     51 has  4 clipping planes specified.
   XMIN =   -14.968     XMAX =    -1.620
   YMIN =    -2.753     YMAX =     7.075
   ZMIN = Not Set       ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D     65.
  Scale of view at D     65 is 1.000000E+00.
Orthographic View entity at D     65 has  4 clipping planes specified.
   XMIN =    -0.017     XMAX =    19.839
   YMIN =    -8.406     YMAX =     6.336
   ZMIN = Not Set       ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D     79.
  Scale of view at D     79 is 1.000000E+00.
Orthographic View entity at D     79 has  4 clipping planes specified.
   XMIN =    -0.727     XMAX =    16.727
   YMIN =     0.519     YMAX =    14.753
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2006: 16 Missing pointers.
2011: 4 Invalid subordinate relationships.
2015: 11 Mathematically incorrect definitions.
2016: 12 Invalid entity use flag.
2038: 1438 Invalid Line font values.

 *** Error Summary ***

    0 fatal errors
    0 severe errors
   27 errors
 1438 warnings
   13 cautions
   16 nitpicks
    0 notes
 *** End of Analysis of 2129-1i.igs ***
```

9.2.1.2 CALS IGES Class II

```
**********************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1994        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
**********************************

Input file is 2129-1i.igs
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)
Today is July 26, 1994  3:57 PM

**********************************
*****    CHECK FILE SYNTAX    *****
**********************************

   Section        Records

   Start              1
   Global             4
   Directory       6904  (   3452 Entities)
   Parameter       4441
   Terminate          1

   No syntax errors detected.

**********************************
*****  SUMMARY AND STATISTICS  ****
**********************************

*** File and Product Name Information ***

   File name from sender    = '2129-1i'
   File creation Date.Time  = '940720.085344'
   Model change Date.Time   = ''
   Author                   = 'Sue Webster'
   Department               = '35400 Cherry Point'
   Product name from sender = 'h-46.eng.2129-1'
   Destination product name = 'h-46.eng.2129-1'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'
```

```
 *** Originating System Data ***

    System ID             = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'
    Preprocessor version  = 'IGES VERSION 4.0 (06-OCT-88)'
    Specification version = 6 (IGES 4.0)

 *** Precision levels ***
    Integer bits =    32
    Floating point  -  Exponent =    38  Mantissa =     6
    Double precision - Exponent =   308  Mantissa =    14

 *** Global Model Data ***

    Model scale            =  1.0000E+00
    Unit flag              =  1
    Units                  =  'INCH'
    Line weights           =  32767
    Maximum line thickness =  3.276700E+01
    Minimum line thickness =  1.000000E-03
    Granularity            =  1.000000E-06
    Maximum coordinate     =  0.000000E+00
CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be
              defaulted to zero.

    Drafting standard applicable to original data is ANSI.

 *** Status Flag Summary ***

  Blank status: Visible                    2724
                Blanked                     728

  Independence: Independent                1998
                Physically Subordinate     1398
                Logically Subordinate         0
                Totally Subordinate          56

  Entity use:   Geometry                   1740
                Annotation                 1502
                Definition                  210
                Other                         0
                Logical/Positional            0
                2D parametric                 0
                Construction geometry         0
                Not Specified                 0
```

Hierarchy:	Structure DE applies	0
	Subordinate DE applies	3452
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	272	Circular arc
100	0	1	48	
100	0	2	51	
100	0	5	1	
100	0	6	8	
100	0	7	28	
100	0	9	16	
100	0	10	6	
100	0	11	1	
100	0	14	13	
100	0	15	8	
100	0	16	104	
100	0	20	8	
100	0	50	4	
100	0	75	3	
102	0	0	8	Composite curve
106	20	1	92	Centerline
106	31	0	1	Section lines - General use, iron, brick, stone masonry
106	31	1	1	
106	31	2	4	
106	31	4	5	
106	40	0	6	Witness line
108	1	0	16	Plane, Bounded
110	0	0	348	Line
110	0	1	107	
110	0	2	180	
110	0	3	73	
110	0	4	43	
110	0	5	39	
110	0	6	71	
110	0	7	104	
110	0	8	48	
110	0	9	129	
110	0	10	18	
110	0	11	44	
110	0	12	57	
110	0	13	34	

110	0	14	35	
110	0	15	84	
110	0	16	179	
110	0	20	26	
110	0	25	25	
110	0	35	34	
110	0	50	45	
110	0	72	6	
110	0	73	1	
110	0	252	304	
124	0	0	12	Transformation matrix
126	0	0	4	Rational B-spline curve
126	0	2	12	
126	0	72	4	
210	0	1	24	General label
212	0	0	27	General note
212	0	1	217	
212	0	2	16	
212	0	252	148	
214	3	0	33	Leader arrow - Filled triangle
216	0	1	3	Linear dimension
230	0	252	8	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
314	0	0	4	Color definition
402	3	0	40	Views visible instance
402	4	0	144	Views visible, Color, Line weight instance
404	0	0	2	Drawing
406	15	0	6	Property - Name
406	16	0	2	Property - Drawing size
406	17	0	2	Property - Drawing units
410	0	0	4	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	933
1	492
2	263
3	73
4	48
5	40
6	79
7	132
8	48
9	145
10	24
11	45
12	57

13	34
14	48
15	92
16	283
20	34
25	25
35	34
50	49
72	10
73	1
75	3
252	460

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled 3452

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
160	8	-	74	16	496	-	-	Undefined
411	-	-	35	-	1518	-	-	Solid
-	-	-	-	-	2	-	-	Dashed
-	-	-	-	-	6	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	12	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	12	-	-	-	Undefined
-	-	-	-	-	-	20	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	3440	(0.0010)
14	12	(0.0140)

```
*** Colors Used in Data ***

 Defaulted     1957
     Green       73
    Yellow      460
   Magenta        2
      Cyan      626
     White       93
      User      241

************************************
*****     ENTITY ANALYSIS      *****
************************************

 *** Entity type: 100

ERROR   2242: Radii not equal at D    195; difference is 8.663394E-05.
ERROR   2242: Radii not equal at D    197; difference is 8.663394E-05.
ERROR   2242: Radii not equal at D    201; difference is 8.669726E-05.
WARNING 2492: Undefined line font value (0) specified for D   2137.
ERROR   2242: Radii not equal at D   2197; difference is 1.486456E-06.
WARNING 2492: Undefined line font value (0) specified for D   2197.
ERROR   2242: Radii not equal at D   2199; difference is 1.486456E-06.
WARNING 2492: Undefined line font value (0) specified for D   2203.
WARNING 2492: Undefined line font value (0) specified for D   2219.
WARNING 2492: Messages regarding undefined line font suppressed.
ERROR   2242: Radii not equal at D   2647; difference is 9.922906E-05.
ERROR   2242: Radii not equal at D   3541; difference is 4.412839E-06.
ERROR   2242: Messages regarding unequal radii suppressed.

 *** Entity type: 102

 *** Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D   5893.
NITPICK 2076: Entity does not have Annotation flag set at D   5895.
NITPICK 2076: Entity does not have Annotation flag set at D   5905.
NITPICK 2076: Entity does not have Annotation flag set at D   5907.
NITPICK 2076: Entity does not have Annotation flag set at D   5917.
NITPICK 2076: Entity does not have Annotation flag set at D   5919.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5923.
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5925.
CAUTION 2331: Messages suppressed
```

```
 *** Entity type: 108

ERROR   2012: Bounded Plane defined without a boundary specified at D   29.
ERROR   2012: Bounded Plane defined without a boundary specified at D   31.
ERROR   2012: Bounded Plane defined without a boundary specified at D   33.
ERROR   2012: Messages regarding bounded plane without boundary suppressed.

 *** Entity type: 110

  --  2034 lines averaging 2.033674E+00 units --

 *** Entity type: 124

12 transformation matrices, 0 non-zero translations.

 *** Entity type: 126

 *** Entity type: 210

 *** Entity type: 212

ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              5977.
ERROR   4050: Illegal text font for CALS Class II specified for string 1 at D
              5979.
ERROR   4050: Messages regarding illegal text fonts suppressed.
       477 text strings in data file.
       Average text aspect ratio in file is 1.0446580.
       Minimum text aspect ratio in file is 0.4469697.
       Maximum text aspect ratio in file is 1.4000000.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1     389   Default ASCII Style
          2      88   LeRoy

 *** Entity type: 214

       Average arrow aspect ratio in file is 3.0000000.
       Minimum arrow aspect ratio in file is 3.0000000.
       Maximum arrow aspect ratio in file is 3.0000000.

 *** Entity type: 216

 *** Entity type: 230
```

```
 *** Entity type: 304

Default line font substitute at D    715 is Phantom.
Default line font substitute at D   1079 is Solid.

 *** Entity type: 314

  Color specified at D     17 has no name.
    Default color substitute is magenta.
  Color specified at D     19 has no name.
    Default color substitute is magenta.
  Color specified at D     21 has no name.
    Default color substitute is cyan.
  Color specified at D     23 has no name.
    Default color substitute is white.

 *** Entity type: 402

 *** Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D   6895.
CAUTION 2325: No views in drawing at D   6895.
Drawing at D   6895 contains 0 annotation entities.
NITPICK 2074: Entity use flag must be 1 for Drawing entity at D   6903.
Drawing at D   6903 contains 4 views.
NITPICK 2289: View (D     79) is not logically subordinate to drawing at D
              6903.
NITPICK 2289: View (D     65) is not logically subordinate to drawing at D
              6903.
NITPICK 2289: View (D     51) is not logically subordinate to drawing at D
              6903.
NITPICK 2289: View (D     37) is not logically subordinate to drawing at D
              6903.
Drawing at D   6903 contains 1346 annotation entities.

 *** Entity type: 406

 *** Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D     37.
  Scale of view at D     37 is 1.000000E+00.
Orthographic View entity at D     37 has  4 clipping planes specified.
   XMIN =    -0.414     XMAX =    16.984
   YMIN =    -5.001     YMAX =     2.835
   ZMIN = Not Set       ZMAX = Not Set
```

```
NITPICK 2073: Entity use flag must be 1 for View entity at D     51.
  Scale of view at D     51 is 1.000000E+00.
Orthographic View entity at D     51 has  4 clipping planes specified.
   XMIN =   -14.968     XMAX =    -1.620
   YMIN =    -2.753     YMAX =     7.075
   ZMIN = Not Set       ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D     65.
  Scale of view at D     65 is 1.000000E+00.
Orthographic View entity at D     65 has  4 clipping planes specified.
   XMIN =    -0.017     XMAX =    19.839
   YMIN =    -8.406     YMAX =     6.336
   ZMIN = Not Set       ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D     79.
  Scale of view at D     79 is 1.000000E+00.
Orthographic View entity at D     79 has  4 clipping planes specified.
   XMIN =    -0.727     XMAX =    16.727
   YMIN =     0.519     YMAX =    14.753
   ZMIN = Not Set       ZMAX = Not Set

 *** Message Summary ***

2006: 16 Missing pointers.
2011: 4 Invalid subordinate relationships.
2015: 11 Mathematically incorrect definitions.
2016: 12 Invalid entity use flag.
2038: 1438 Invalid Line font values.
4000: 88 Miscellaneous CALS messages

 *** Error Summary ***

     0 fatal errors
     0 severe errors
   115 errors
  1438 warnings
    13 cautions
    16 nitpicks
     0 notes

 *** End of Analysis of 2129-1i.igs ***
```

9.2.2 Parser Log - AutoCAD R12

```
Title: IGESIN Journal (v5.1 Nov 05 1992)
================================================================================
File: C:/TMP/2129-1I.xli
Date: Tue, Jul 26, 1994
Time: 16:23:49
================================================================================

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N:   117-10075750
Translating from IGES file:        C:/TMP/2129-1I.IGS
            to AutoCAD Drawing:    C:\2129-1I.dwg
================================================================================

Options obtained from:  default settings
Curves Approximated to Tolerance of          0.01
Surfaces Approximated to Tolerance of        0.01

Text Font/Style mapping:
IGES Text font      Style Name       ACAD Font
         0                SYMBOL0         iges0
         1               STANDARD           txt
         2                  LEROY           txt
         3                 FUTURA           txt
         6                 COMP80           txt
        12                GOTHICE       gothice
        13                GOTHICI       gothici
        14                 ROMANS        romans
        17                 ROMANT        romant
        18                 ROMAND        romand
        19                    OCR           txt
      1001                SYMBOL1      iges1001
      1002                SYMBOL2      iges1002
      1003                SYMBOL3      iges1003
      2001                  KANJI       bigfont

IGES Linefont/AutoCAD Linetype mapping
IGES Line Font      AutoCAD linetype        Shape file
         0                  BYLAYER
         1                CONTINUOUS
         2                    DASHED             acad.lin
         3                   PHANTOM             acad.lin
         4                    CENTER             acad.lin
         5                       DOT             acad.lin
================================================================================
```

Parse phase

*** Warning (IEVM_BAD_PTR_108) ***
(DE 29, TF 108:1) Entity references DE 0. Pointer must must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

*** Warning (IEVM_BAD_PTR_108) ***
(DE 31, TF 108:1) Entity references DE 0. Pointer must must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 195, TF 100:0) Entity's radii are not equal. Start point radius: 4.8609670e-002. Terminate point radius: 4.8696304e-002.

Action taken: Start point moved 4.3316971e-005 units from 8.8423200e+001, 3.8616000e+001 to 8.8423162e+001, 3.8615978e+001. Terminate point moved 4.3316971e-005 units from 8.8507500e+001, 3.8616000e+001 to 8.8507462e+001, 3.8616022e+001.

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 197, TF 100:0) Entity's radii are not equal. Start point radius: 4.8609670e-002. Terminate point radius: 4.8696304e-002.

Action taken: Start point moved 4.3316971e-005 units from 8.8423200e+001, 3.8616000e+001 to 8.8423238e+001, 3.8616022e+001. Terminate point moved 4.3316971e-005 units from 8.8338900e+001, 3.8616000e+001 to 8.8338938e+001, 3.8615978e+001.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 5791, TF 100:0) Entity's radii are not equal. Start point radius: 1.5472348e-001. Terminate point radius: 1.5478358e-001.

Action taken: Start point moved 3.0048748e-005 units from 1.0996800e+001, 7.0750000e-002 to 1.0996818e+001, 7.0773986e-002. Terminate point moved 3.0048748e-005 units from 1.0810300e+001, 7.0749800e-002 to 1.0810318e+001, 7.0725824e-002.

==========

Start Section:

Global Section:

Parameter Delimiter:	,
Record Delimiter:	;
Sending Product ID:	h-46.eng.2129-1
File Name:	2129-1i
System ID:	COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM
Preprocessor Version:	IGES VERSION 4.0 (06-OCT-88)
Size of Integer:	32
Sgl. Precision Mag:	38
Sgl. Precision Sig:	6
Dbl. Precision Mag:	308
Dbl. Precision Sig:	14
Receiving Product ID:	h-46.eng.2129-1
Model Space Scale:	1.000000
Unit Flag:	1
Unit String:	INCH
# of Line Weights:	32767
Maximum Line Width:	32.767000
Creation Date:	07/20/94 08:53:44
Minimum Resolution:	0.000001
Maximum Coordinate:	0.000000
Author:	Sue Webster
Organization:	35400 Cherry Point
IGES Version Number:	6
Drafting Standard:	3

Entity Summary:

Type	Form	Description	Count
100	0	Circular Arc	571
102	0	Composite Curve	8
106	20	Centerline Through Points	92
106	31	Section Entity	11
106	40	Witness Line	6
108	0	Plane (Unbounded)	16
110	0	Line	2034
124	0	Transformation Matrix	12
126	0	Rational B-Spline Curve (General)	20
210	0	General Label	24
212	0	General Note (Simple)	408
214	3	Leader (Filled triangle)	33
216	0	Linear dim - undetermined form	3
230	0	Section Area (Standard Fill)	8
304	2	Line Font Definition (Pattern)	2
314	0	Color Definition	4
402	3	Views Visible	40
402	4	Views Visible, Color, Line wt.	144
404	0	Drawing (form 0)	2
406	15	Property (Name)	6
406	16	Property (Drawing Size)	2
406	17	Property (Drawing Units)	2
410	0	View	4
		Total	3452

Translation phase

Drawing Entity (404 Form 0) at DE 6895, with
   name = 2,
   size = 22.000000, 17.000000,
   units = IN,
was processed in the AutoCAD drawing file: C:\2129-1I.dwg

Drawing Entity (404 Form 0) at DE 6903, with
   name = 1,
   size = 140.000000, 70.000000,
   units = IN,
was processed in the AutoCAD drawing file: C:\2129-1I1

IGES Entity Summary

Type	Form	Description	Count	Processed	Errors
100	0	Circular Arc	571	571	0
102	0	Composite Curve	8	8	0
106	20	Centerline Through Points	92	92	0
106	31	Section Entity	11	11	0
106	40	Witness Line	6	6	0
108	0	Plane (Unbounded)	16	16	0
110	0	Line	2034	2034	0
126	0	Rational B-Spline Curve (General)	20	20	0
210	0	General Label	24	24	0
212	0	General Note (Simple)	408	408	0
214	3	Leader (Filled triangle)	33	33	0
216	0	Linear dim - undetermined form	3	3	0
230	0	Section Area (Standard Fill)	8	8	0
304	2	Line Font Definition (Pattern)	1	1	0
314	0	Color Definition	4	4	0
402	3	Views Visible	40	40	0
402	4	Views Visible, Color, Line wt.	144	144	0
404	0	Drawing (form 0)	2	2	0
406	15	Property (Name)	6	6	0
406	16	Property (Drawing Size)	2	2	0
406	17	Property (Drawing Units)	2	2	0
410	0	View	4	4	0
Totals			3439	3439	0

AutoCAD Entity Summary

Entity	Created	Errors
LINE	3222	0
CIRCLE	485	0
TEXT	471	0
ARC	86	0
SOLID	27	0
INSERT	162	0
POLYLINE	28	0
DIMENSION	3	0
BLOCK	162	0
Totals	4646	0

Error Summary:

The following message was issued 11 time(s)
Entity's radii are not equal. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued 16 time(s)
Entity references DE %ld%s. Pointer must must reference a Closed Curve entity.

Status: 0
Warning: 27
Error: 0
Fatal: 0

Elapsed Time:

Processor: 00:02:52
Clock: 00:02:53

9.2.3 Prepare Error Log

```
          ERROR REPORT FOR FILE  /novell/94101/2129-1i.igs

    >> File record length is 81  (1 record terminator used)

    Terminate section report :

                  File Section     #lines
              +-------------------------------+
              |            START        1     |
              |           GLOBAL        4     |
              |  DIRECTORY ENTRY     6904     |
              |   PARAMETER DATA     4441     |
              |        TERMINATE        1     |
              |                               |
              |          TOTAL      11351     |
              +-------------------------------+
              (Expect 81 X 11351 = 919431 bytes)

    -------------- preliminary format scan complete --------------

>> WARNING: Cannot use maximum power of 10 requested.
      : Requested maximum power of 308 using 307.
      : Field 11 line 2 of GLOBAL section. (Max. Exp. for Double)
PHIC SYSTEM,28HIGES VERSION 4.0 (06-OCT-88),32,38,6,308,14,15Hh-46.eng.2G      2
                                                   ^^^
      ---------------------------------------------------------------------

    Found 0 errors and 1 warnings
```

9.2.4 Parser Log - IGESWorks

```
                    IGES/Works v1.4.1
            International TechneGroup Incorporated
                    Validation Logfile

Date:   July 28, 1994
Model:  21291i

******************** Validation Parameters ********************

             TOLERANCE CONFIGURATION VALUES
             ------------------------------

ZERO_TOL                    = 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL    = 1.000000e-03
PARM_SPACE_PNT_COIN_TOL     = 1.000000e-08
ISO_PARM_CURVE_TOL          = 1.000000e-08
NON_CONV_TOL                = 1.000000e-12
KNOT_COIN_TOL               = 1.000000e-10
SAME_INTER_TOL              = 1.000000e-12
PARALLEL_LINES_TOL          = 1.000000e-07
ANGLE_COIN_TOL              = 1.000000e-05
PNT_PROJ_TOL                = 1.000000e-07
COLIN_TOL                   = 1.000000e-07
COPLANAR_TOL                = 1.000000e-08
ZERO_NORMAL_TOL             = 1.000000e-06
SAME_TANGENT_TOL            = 1.000000e-04
SAME_CURVATURE_TOL          = 1.000000e-04
SAME_DERIVATIVE_TOL         = 1.000000e-03
MODEL_LINEAR_APPROX_TOL     = 2.220446e-16

************** Entity Listing Before Validation ***************

  Count        Type        Form        Description
  -----        ----        ----        -----------
    571         100           0        Circular Arc
      8         102           0        Composite Curve
     92         106          20        Centerline Through Points
     11         106          31        Section Entity
      6         106          40        Witness Line
     16         108           1        Plane (Bounded)
   2034         110           0        Line
     12         124           0        Transformation Matrix
     20         126           0        Rational B-Spline Curve (General)
     24         210           0        General Label
    408         212           0        General Note (Simple)
```

33	214	3	Leader (Filled triangle)
3	216	0	Linear dim - undetermined form
8	230	0	Section Area (Standard Fill)
2	304	2	Line Font Definition (Pattern)
4	314	0	Color Definition
40	402	3	Views Visible
144	402	4	Views Visible, Color, Line wt.
2	404	0	Drawing (form 0)
6	406	15	Property (Name)
2	406	16	Property (Drawing Size)
2	406	17	Property (Drawing Units)
4	410	0	View

3452 - Number of entities in selection list

********** Entity Validation **********

*** Warning (IEVM_BAD_PTR_108) ***
(DE 29, TF 108:1) This Bounded Plane entity (108:1, 108:-1) references DE 0. The pointer must reference a Closed Curve entity.
Action taken: The form number was changed from 1 to 0.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 195, TF 100:0) This circular arc entity's start point and end point radii are not equal in length. Start point radius: 4.8609670e-02. Terminate point radius: 4.8696304e-02.
Action taken: Start point moved 4.3316971e-05 units from 8.8423200e+01, 3.8616000e+01 to 8.8423162e+01, 3.8615978e+01. Terminate point moved 4.3316971e-05 units from 8.8507500e+01, 3.8616000e+01 to 8.8507462e+01, 3.8616022e+01.

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 197, TF 100:0) This circular arc entity's start point and end point radii are not equal in length. Start point radius: 4.8609670e-02. Terminate point radius: 4.8696304e-02.
Action taken: Start point moved 4.3316971e-05 units from 8.8423200e+01, 3.8616000e+01 to 8.8423238e+01, 3.8616022e+01. Terminate point moved 4.3316971e-05 units from 8.8338900e+01, 3.8616000e+01 to 8.8338938e+01, 3.8615978e+01.

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

*** Warning (IEVM_BAD_PLANAR_FLAG_126) ***
(DE 5847, TF 126:0) This Rational B-Spline Curve entity's (126) Planar/ Nonplanar property flag (Index 3 of Parameter Data) incorrectly specifies the entity as nonplanar. The entity is planar within the specified tolerance.
Action taken: The entity's property flag has been changed from 0 to 1.

*** Warning (IEVM_BAD_PLANE_NORMAL_126) ***
(DE 5847, TF 126:0) This Rational B-Spline Curve entity's (126) Unit Normal index (in the Parameter Data) for the plane of the curve is incorrect within the stated tolerance.
Action taken: The value in the Unit Normal index has been fixed.

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected Warnings	Number of Corrected Errors	Number of Uncorrected Warnings	Number of Uncorrected Errors
Global Section		1	1	0	0	0	0
100	0	571	560	0	11	0	0
102	0	8	8	0	0	0	0
106	20	92	92	0	0	0	0
106	31	11	11	0	0	0	0
106	40	6	6	0	0	0	0
108	0	16	0	0	16	0	0
110	0	2034	2034	0	0	0	0
124	0	12	12	0	0	0	0
126	0	20	0	20	20	0	0
210	0	24	24	0	0	0	0
212	0	408	408	0	0	0	0
214	3	33	33	0	0	0	0
216	0	3	3	0	0	0	0
230	0	8	8	0	0	0	0
304	2	2	2	0	0	0	0
314	0	4	4	0	0	0	0
402	3	40	40	0	0	0	0
402	4	144	144	0	0	0	0
404	0	2	2	0	0	0	0
406	15	6	6	0	0	0	0
406	16	2	2	0	0	0	0
406	17	2	2	0	0	0	0
410	0	4	4	0	0	0	0
Totals:		3453	3406	20	47	0	0

The following message was issued and suppressed 6 times:

This circular arc entity's start point and end point radii are not equal in length. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued and suppressed 11 times:

This Bounded Plane entity (108:1, 108:-1) references DE %ld%s. The pointer must reference a Closed Curve entity.

The following message was issued and suppressed 15 times:

This Rational B-Spline Curve entity's (126) Planar/Nonplanar property flag (Index 3 of Parameter Data) incorrectly specifies the entity as nonplanar. The entity is planar within the specified tolerance.

The following message was issued and suppressed 15 times:

This Rational B-Spline Curve entity's (126) Unit Normal index (in the Parameter Data) for the plane of the curve is incorrect within the stated tolerance.

A message is suppressed when it has been issued more than 5 times. This value is controlled by the 'MAX_MESSAGE' configuration parameter.
****

9.2.5 Intergraph Import Log

```
IGES Translator Log File
IGES to I/EMS processing

Command line used:
iges -d in -i /novell/94101/21291i.igs -o /novell/94101/21291i.dgn -s
/cals/ip32/ems/config/seed_file -l /novell/94101/21291i.log

Processing started: Thu Jul 28 09:04:37 1994

Seed file used: /cals/ip32/ems/config/seed_file

                        ** Generic Information **
------------------------------------------------------------------------------

IGES Version:                   4.0
IGES File:                      "/novell/94101/21291i.igs"
MODEL File:                     "/novell/94101/21291i.dgn"
LOG File:                       "/novell/94101/21291i.log"
Application Protocol:           ANSI IGES
Defaulted Values:
        Chord Height tolerance of 0.010000 has been used

                        ** Start Section **
------------------------------------------------------------------------------
                        ** Global Section **
------------------------------------------------------------------------------

1.  Parameter delimiter: ','
2.  Record delimiter: ';'
3.  Product Identification of sending system: "h-46.eng.2129-1"
4.  File Name:  "2129-1i"
5.  System ID:  "COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM"
6.  Preprocessor Version: "IGES VERSION 4.0 (06-OCT-88)"
7.  Number of bits for integer representation: 32
8.  Maximum power of ten in single precision floating point: 38
9.  Number of significant digits in single precision floating point: 6
10. Maximum power of ten in double precision floating point: 308
11. Number of significant digits in double precision floating point: 14
12. Product Identification of receiving system: h-46.eng.2129-1
13. Model space scale: 1.000000
14. Unit flag: 1
15. Units: "INCH"
16. Maximum number of line weight gradations: 15
17. Size of maximum line width in units: 1077961261
18. Date and time of file generation: "940720.085344"
```

19. Minimum user intended resolution: 0.000001
20. Approximate maximum coordinate value: 0.000000
21. Name of author: Sue Webster
22. Author's organization: 35400 Cherry Point
23. Integer value corresponding to IGES version: 6
24. Drafting standard: 3

** Qualitative Analysis **

Warning: Form 2 not supported for IGES type 304. DE record #: 715
Warning: Form 2 not supported for IGES type 304. DE record #: 1079
Warning: File 1 already exists, renamed to 21291i.s01. DE record #: 6903
Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 5977
Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 5979

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Warning: Font 2 has no I/EMS equivalent, output as default.
DE record #: 6451

** Quantitative Diagnostics **

IGES entity types encountered:

Entity Type:	100 (IGES_ARC)	Quantity:	571
Entity Type:	102 (IGES_COMPOSITE_CURVE)	Quantity:	8
Entity Type:	106 (IGES_COPIOUS_DATA)	Quantity:	109
Entity Type:	108 (IGES_PLANE)	Quantity>	32
Entity Type:	110 (IGES_LINE)	Quantity:	2090
Entity Type:	126 (IGES_B_SPLINE_CURVE)	Quantity:	20
Entity Type:	210 (IGES_GENERAL_LABEL)	Quantity:	24
Entity Type:	212 (IGES_GENERAL_NOTE)	Quantity:	408
Entity Type:	214 (IGES_LEADER)	Quantity:	33
Entity Type:	216 (IGES_LINEAR_DIMENSION)	Quantity:	3
Entity Type:	230 (IGES_SECTIONED_AREA)	Quantity:	8
Entity Type:	304 (IGES_LINE_FONT_DEF)	Quantity:	2
Entity Type:	314 (IGES_COLOR_DEF)	Quantity:	8
Entity Type:	402 (IGES_ASSOCIATIVITY_INST)	Quantity:	184
Entity Type:	404 (IGES_DRAWING)	Quantity:	2
Entity Type:	406 (IGES_PROPERTY)	Quantity:	8

Total: 3510

IGES entity types successfully translated:

Entity Type:	100 (IGES_ARC)	Quantity:	571
Entity Type:	102 (IGES_COMPOSITE_CURVE)	Quantity:	8
Entity Type:	108 (IGES_PLANE)	Quantity:	32
Entity Type:	110 (IGES_LINE)	Quantity:	2090
Entity Type:	126 (IGES_B_SPLINE_CURVE)	Quantity:	20
Entity Type:	212 (IGES_GENERAL_NOTE)	Quantity:	408
Entity Type:	230 (IGES_SECTIONED_AREA)	Quantity:	8
Entity Type:	314 (IGES_COLOR_DEF)	Quantity:	4
Entity Type:	402 (IGES_ASSOCIATIVITY_INST)	Quantity:	184
Entity Type:	404 (IGES_DRAWING)	Quantity:	2
Entity Type:	406 (IGES_PROPERTY)	Quantity:	8

Total: 3335

IGES entity types modified during translation:

Entity Type:	106 (IGES_COPIOUS_DATA)	Quantity:	109
Entity Type:	210 (IGES_GENERAL_LABEL)	Quantity:	24
Entity Type:	214 (IGES_LEADER)	Quantity:	33
Entity Type:	216 (IGES_LINEAR_DIMENSION)	Quantity:	3

Total: 169

IGES entity types ignored during translation:

Entity Type:	304 (IGES_LINE_FONT_DEF)	Quantity:	2
Entity Type:	314 (IGES_COLOR_DEF)	Quantity:	4

Total: 6

IGES entity types failed during translation:

Total: 0

I/EMS elements successfully created:

I/EMS element type: GR3dcircle	Quantity:	485
I/EMS element type: GR3dcirarc	Quantity:	86
I/EMS element type: GRcompcurve	Quantity:	8
I/EMS element type: GRbcsubbc	Quantity:	20
I/EMS element type: GR3dtext	Quantity:	441
I/EMS element type: GRgrgrp	Quantity:	109
I/EMS element type: GRaxhatch	Quantity:	8
I/EMS element type: GR3dlinestr	Quantity:	33
I/EMS element type: GR3dlineseg	Quantity:	2090
I/EMS element type: GRreffile	Quantity:	4

Total: 3284

Processing completed: Thu Jul 28 09:05:38 1994

Elapsed time: 00:01:01

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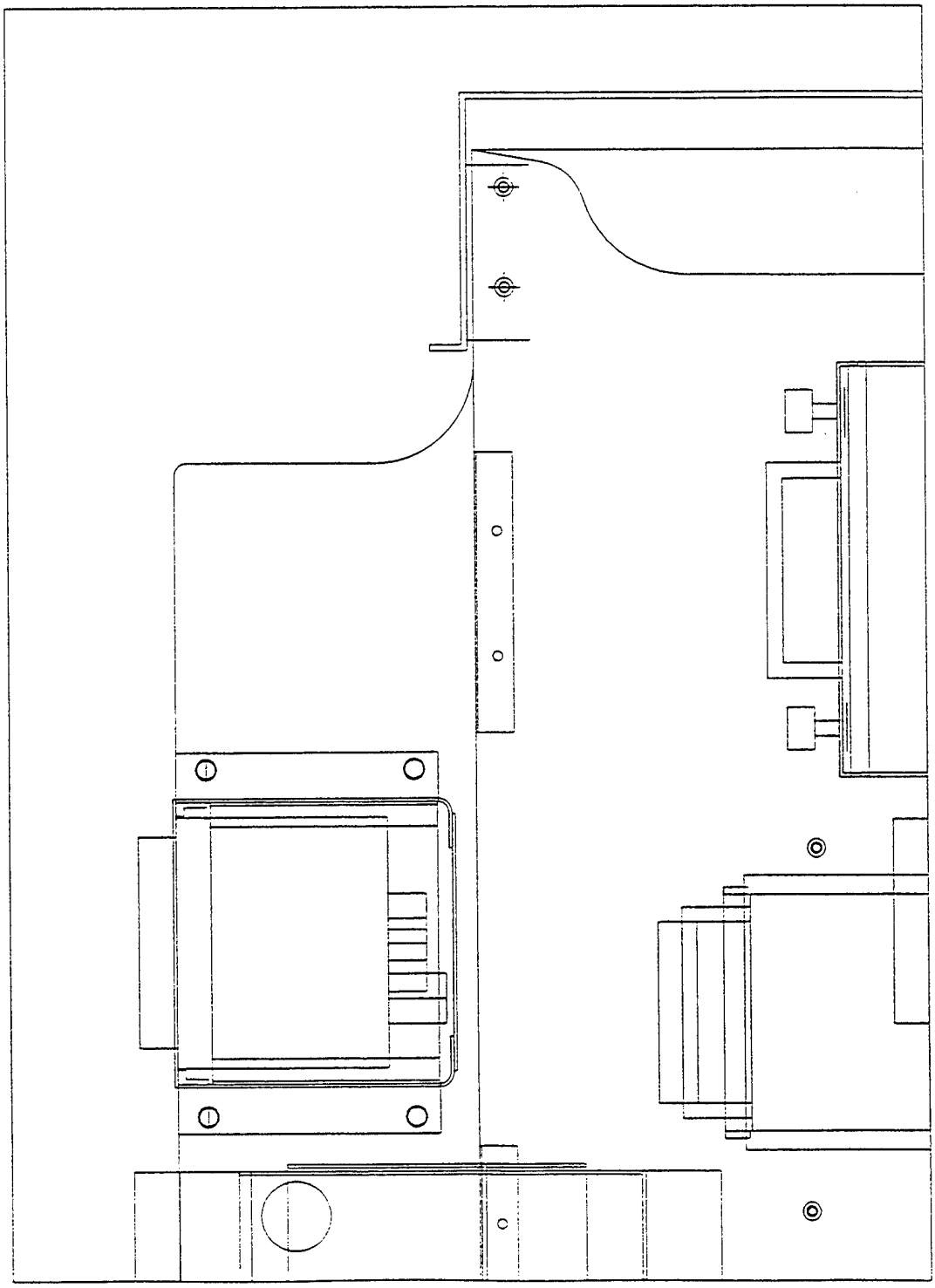
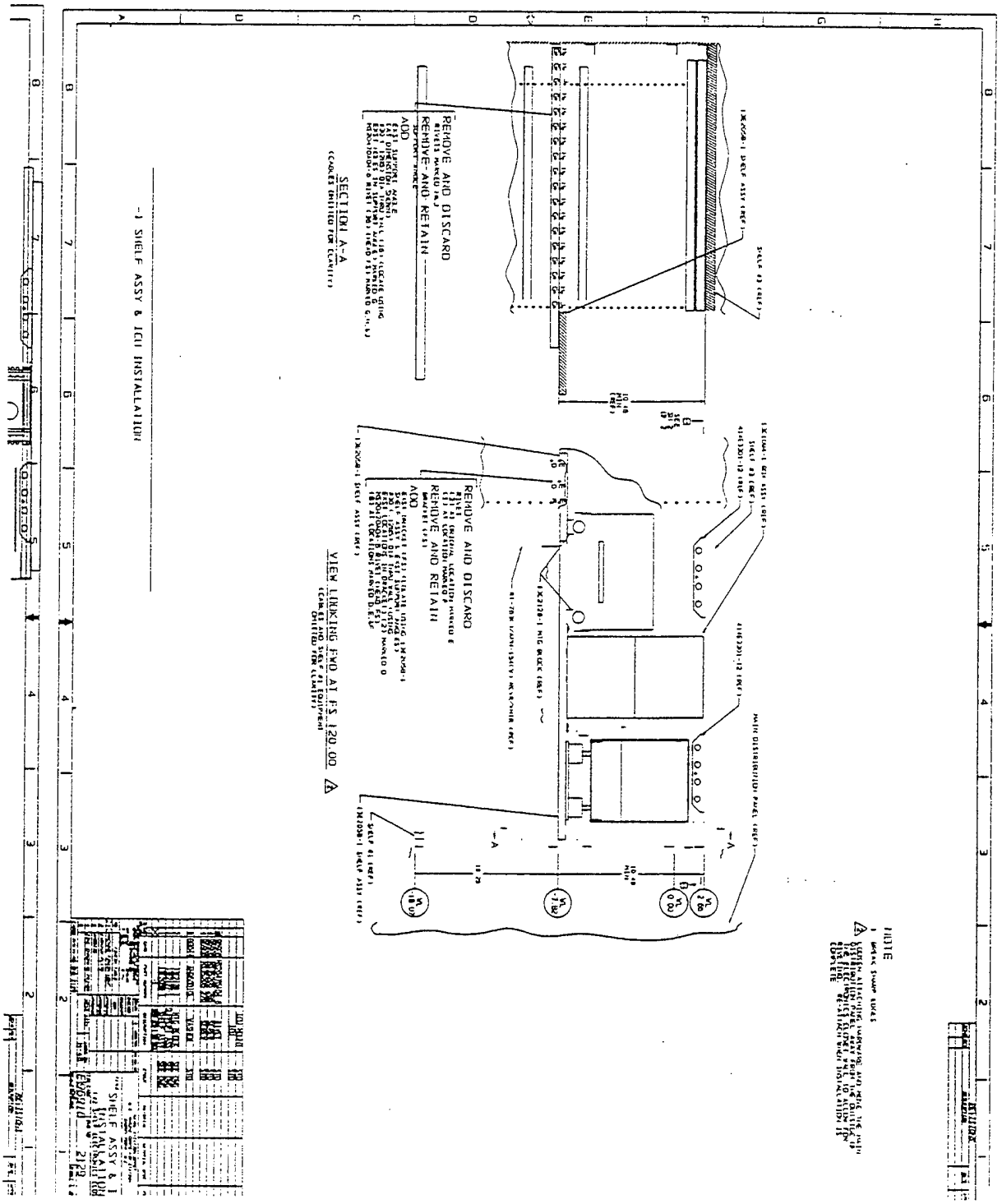
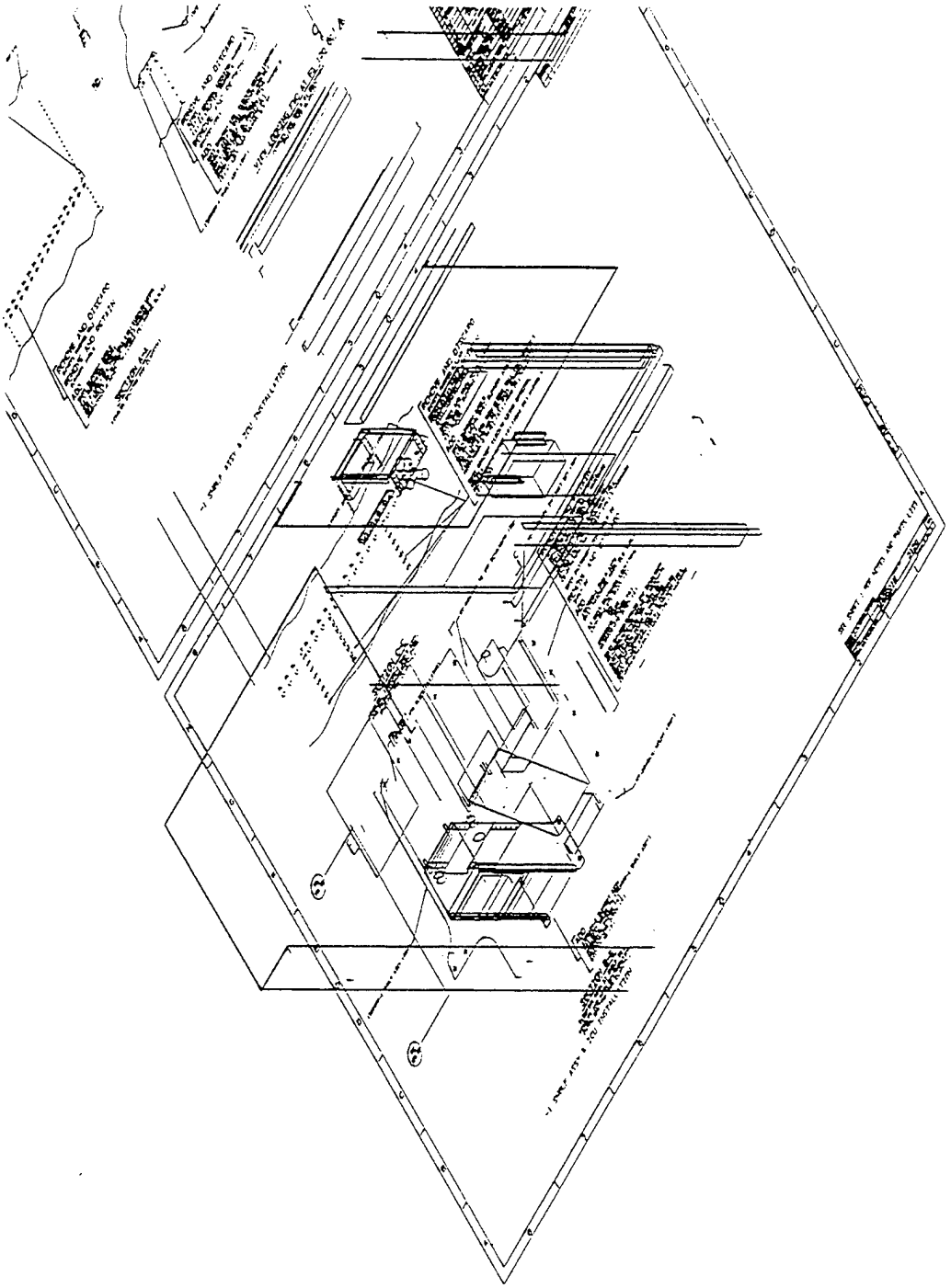
9.2.6 Output AutoCAD R12



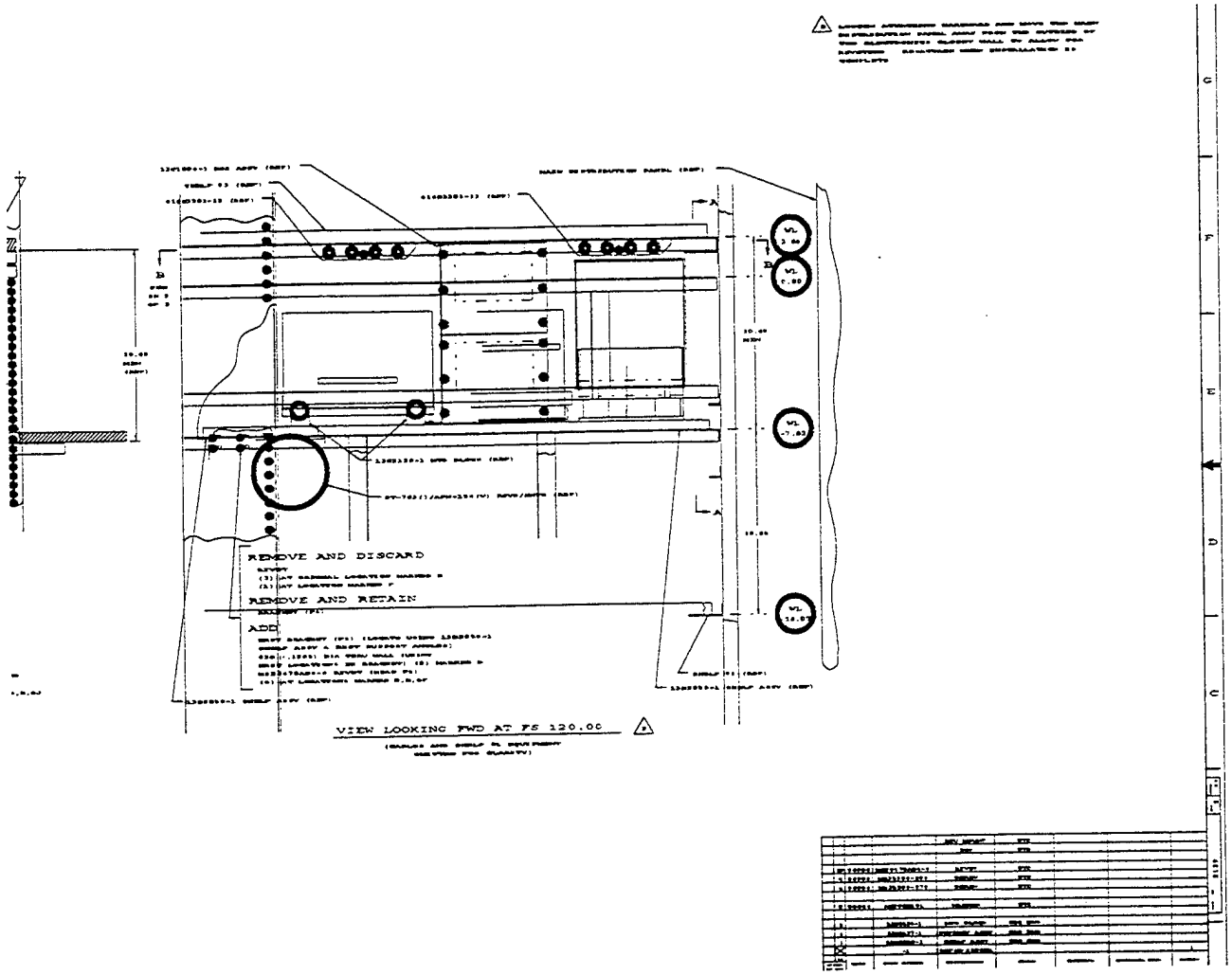
9.2.7 Output Cadkey v6.0 - Drawing



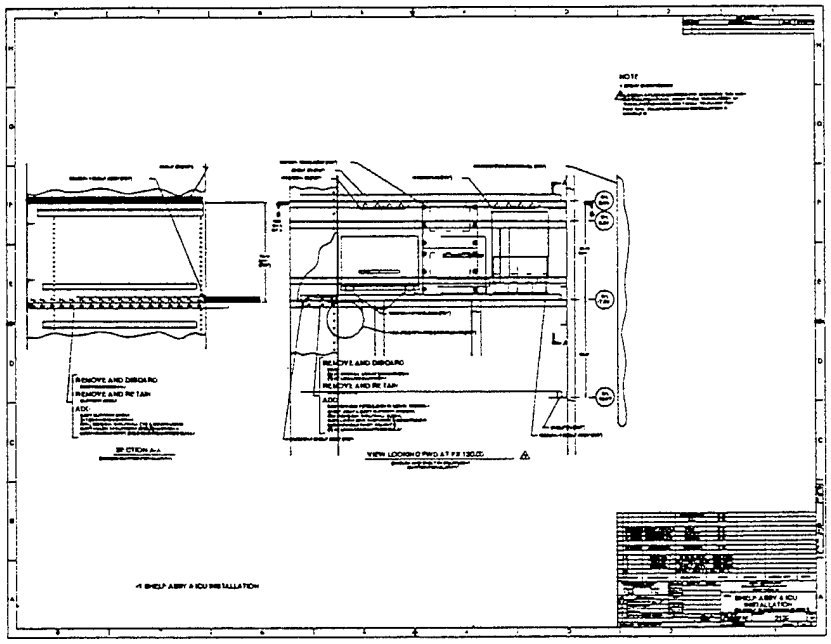
9.2.8 Output Cadkey v6.0 - Drawing/Model

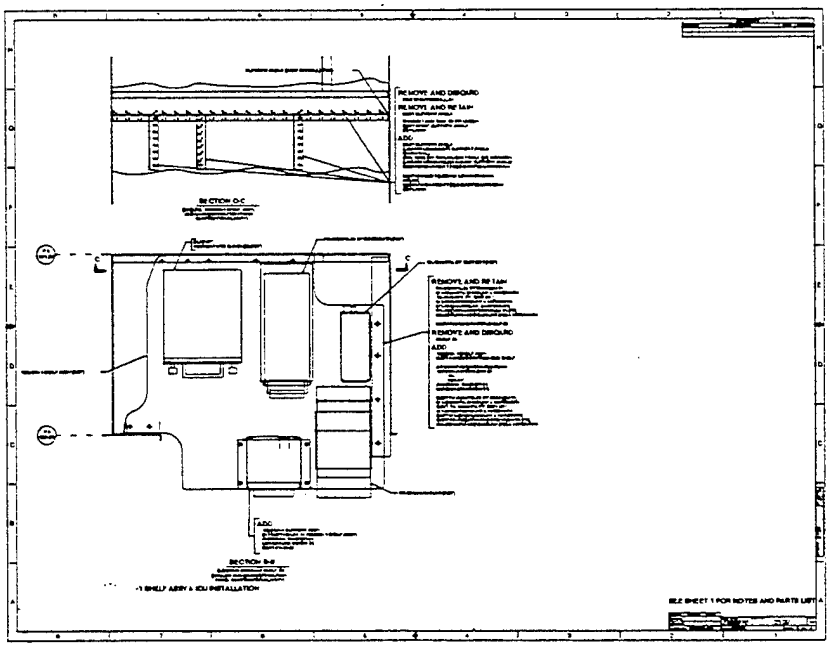


9.2.9 Output CADLeaf - Detail

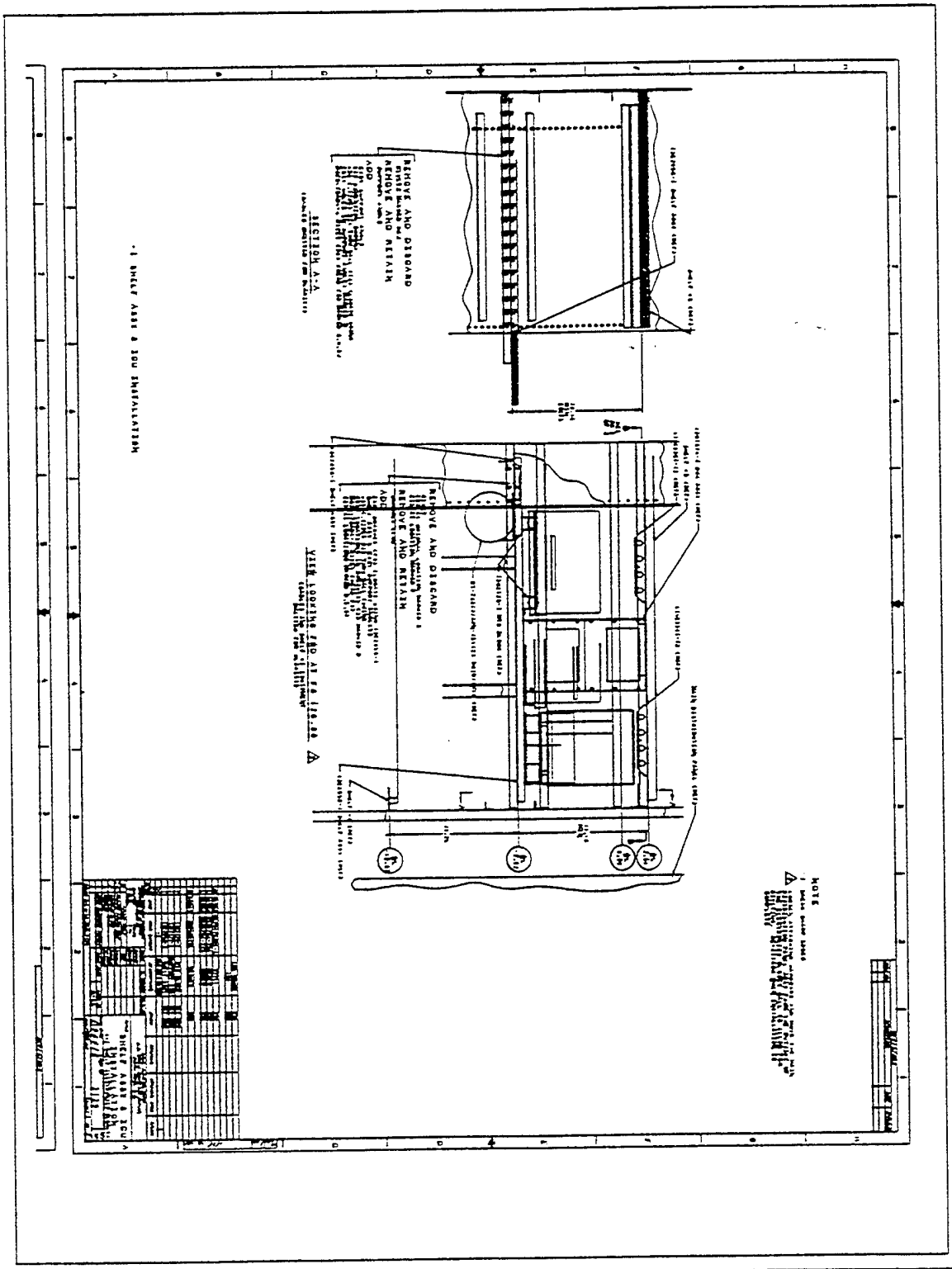


9.2.10 Output IGESView - Drawings

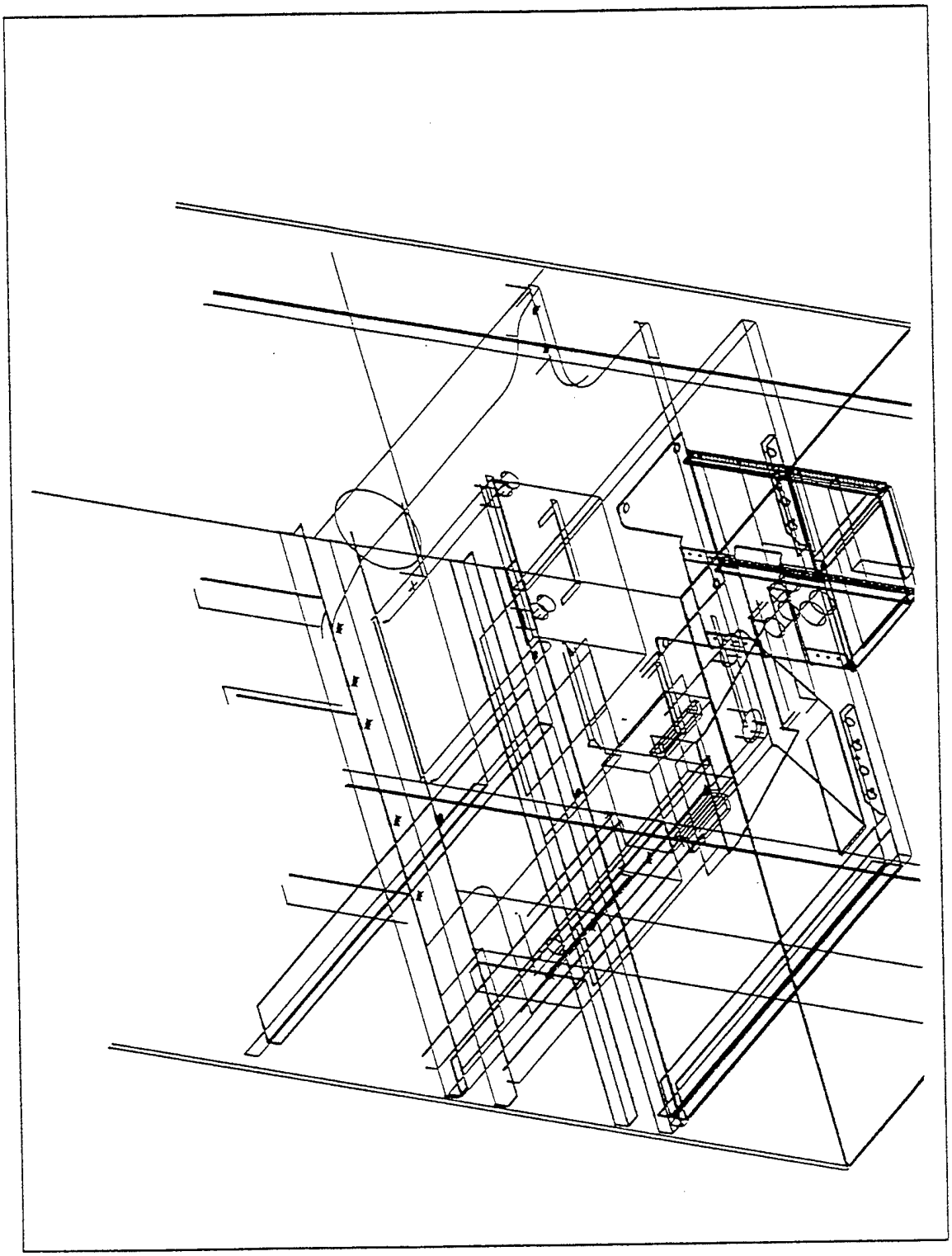




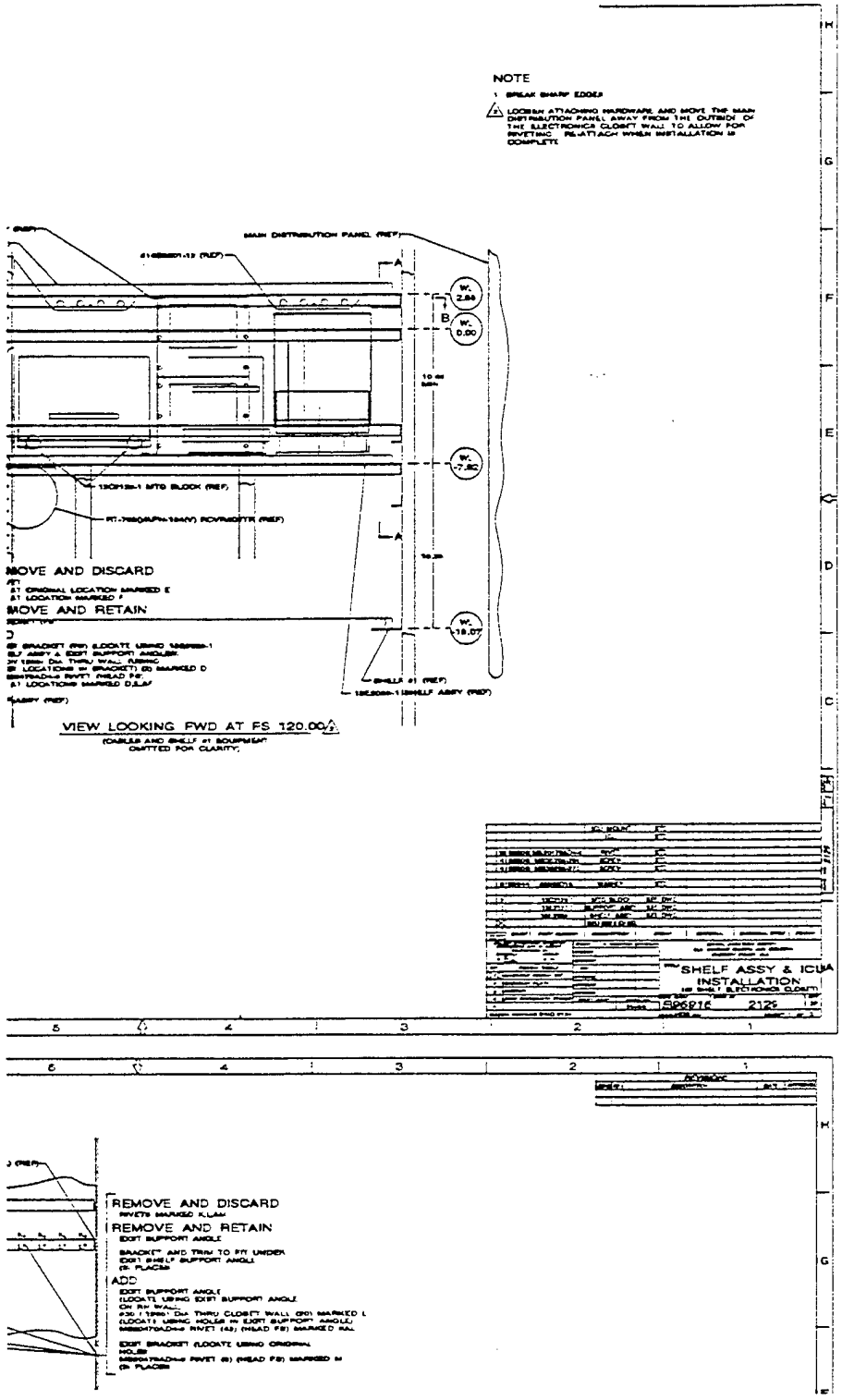
9.2.11 Output IGESWorks - Drawing



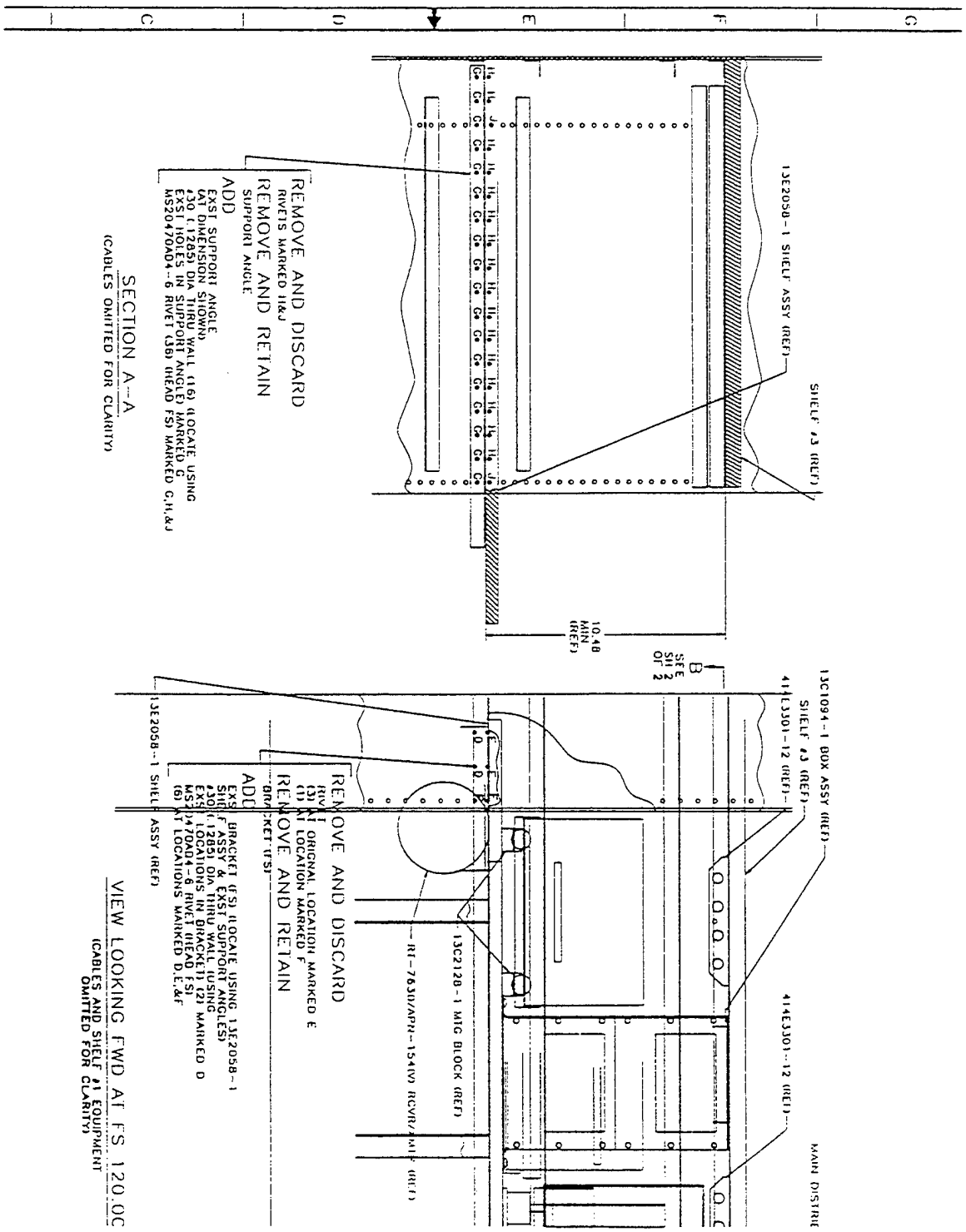
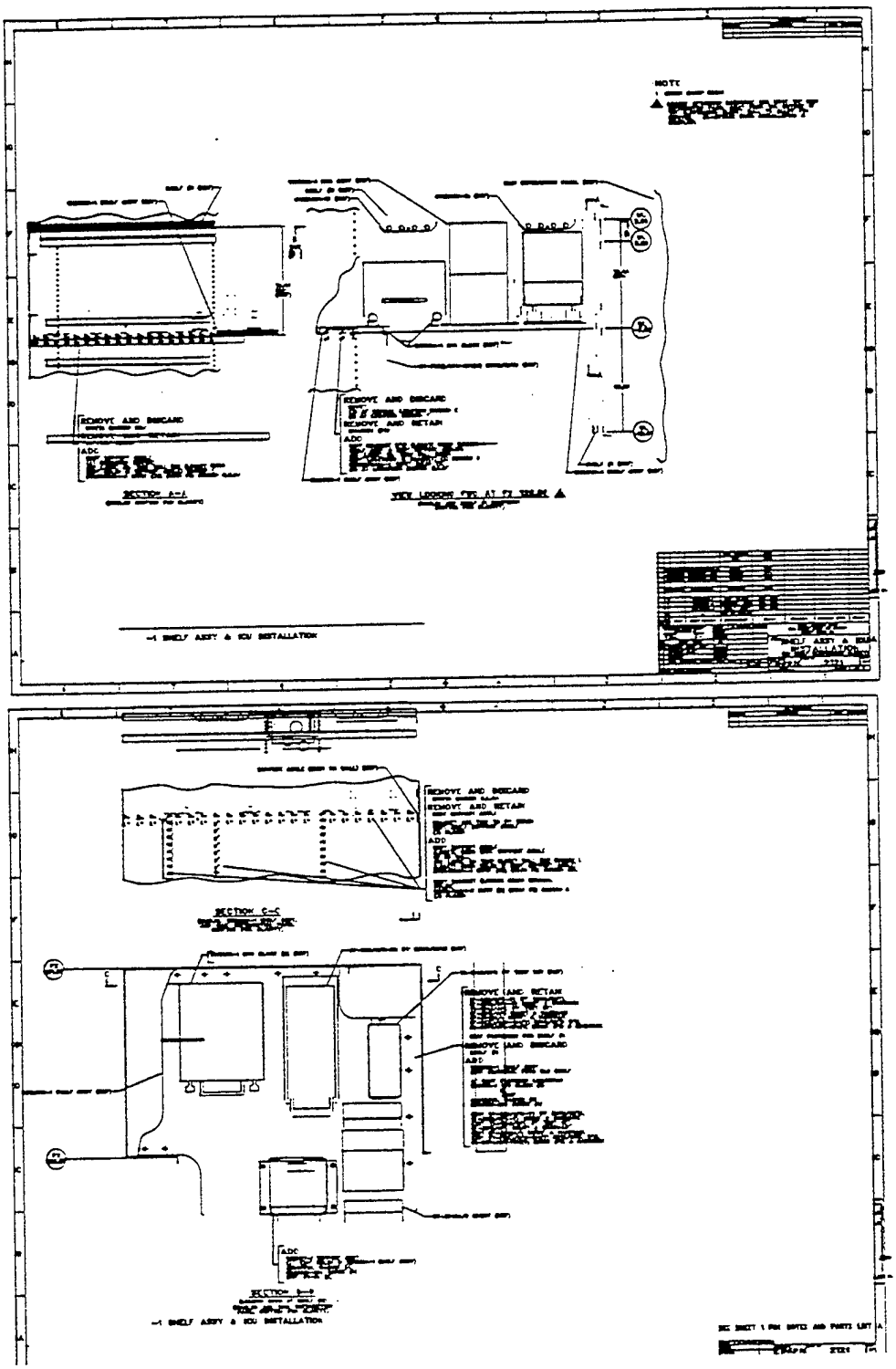
9.2.12 Output IGESWorks - Model



9.2.13 Output IslandDraw



9.2.14 Output Preview



9.2.15 Output X-Change